MOTOR AGE

A Chilton Class Journal Publication Published Weekly May 10, 1928

Tell Them of the Hidden Quality

Be sure to tell your prospects that your car is equipped with Timken Bearings. By doing so you will greatly enhance the good impression that general appearance and *visible* parts of the car have made upon them.

During 1928, Timken Advertising is appearing regularly in more than 150 national and trade publications, capping over a quarter of a century of national advertising. Your prospective owners know Timken Bearings, and their value in a car. Tell them how thoroughly *your* car is Timken-equipped.

THE TIMKEN ROLLER BEARING CO., CANTON, OHIO

Timken tapered construction and Timken POSITIVELY ALIGNED ROLLS give Timken Bearings full thrust-radial capacity in the most compact, simplest form. ALL loads are confined entirely to the bearing itself, which is made of Timken electric furnace steel—the most wear-resistant bearing material ever known.

TIMEN Tapered BEARINGS

Hupmobile Dealers enjoy record prosperity..

Newark — Delivered one hundred sixty-two retail and wholesale in March against ninety-two February and one thirty March last year which was largest previous month.—G. W. Tisdale.

. . read their wires on March business

Chicago — 608 cars were sold, 542 actually delivered. Registrations in Cook County showed increase of sixty-one per cent over year ago. April will be another record breaker.—C. E. Gambill.

Hartford—Sold147 cars in March. Delivered first seven days of April 65 cars. Looks like better than a 200 car month. Every indication that cars are growing in favor every week. Even competitors admit that we have the outstanding car of the year.—L. & H. Motor Co.

Baltimore—March sales this year exceeded March year ago by 92 per cent and exceeded February this year by 52 per cent. First 3 months sales this year exceeded corresponding period last year by 53 per cent giving Hupmobile greatest increase any car in Hupmobile price group.—Max Von Schlegell.

Philadelphia—We delivered 424 cars in March which broke all previous records. Our gain for the first three months of this year over same months last year was seventy-three per cent. For first ten days of April in Philadelphia, our actual registrations give us fourth place in sales.—Harper & Harper

Los Angeles—March just
Los Angeles—March just
closed largest month 253
closed largest month 1ast
history with delivery 253
cars. delivered delivered
year delivered delivered
ruary this year previous
ruary Largest previous
month December, 239.
when we delivered
Greer Robbins Co.

Cleveland—Delivered,
240 cars in March,
133
240 cars month, 133
largest month, March
Per cent over March
1927. Twenty-five
per cent increase
per cent ary, preper february, A.L.
vious largest. Motor
Englander
Company.

St. Lowis—Sold 118

St. Lo

now if you would share in the
greatest year in Hupmobile history.
Limited territory still available. Write or
wire for details of the Hupmobile franchise.

HUPP MOTOR CAR CORPORATION Detroit, Mich.

Cincimati—We sold 14:

the in month of March
history of our month in
ately 33 % per cent over
Fuller Automobile Com-

ENTURY SIX & EIGHT

YOU WANT "HALLOWELL" STEEL EQUIPMENT



This is the picture of a

"HALLOWELL" STEEL WORK-BENCH

every part of it is of steel and therefore it stands the racket better than other benches.

But most important of all is its one-piece sheet steel top—because it never becomes oil-soaked, never cracks, never splinters; but on the contrary gets smoother and more serviceable with age.

"Hallowell" Steel Work-Benches are quite inexpensive—besides they can be picked up from stock, so there is no waiting.

Write for Bulletin No. 386.

Other "Hallowell" Lines of Steel: Bench Legs, Work Tables, Tool Stands, Trucks.

STANDARD PRESSED STEEL CO

0

BRANCH 28 N.Clinton St. CHICAGO, ILL. JENKINTOWN, PENNA.

BOX 517

BRANCH 944 Harper Ave. DETROIT, MICH.



Holmes Wreckers No. 485

After a fair, deliberate and impartial investigation of various automobile wrecking equipment, the Chicago Motor Club selected seven Holmes Wreckers as being the equipment that would enable this organization to maintain and extend the exceptionally high character of service demanded by its 70,000 members.

In every other city thousands of motorists are seeking this same type of practical, efficient service, and the service man, repair man or dealer who expects to meet this demand will turn immediately to the Holmes No. 485.

Every hour motor mishaps are occurring within easy working range of your shop, and every wreck presents exceptional opportunities for profit. No other single investment will so increase your revenue as this wrecker.

It will handle 99 out of every 100 wrecks speedily and efficiently with only one man on the job. It pays its own way and brings you big profits besides. Write today for special folder or ask your Jobber for complete information.

ERNEST HOLMES COMPANY

CHATTANOOGA.

TENNESSEE

HOLMES V TOW BARS

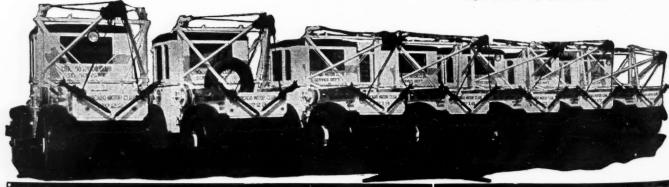


These bars enable the driver of any wrecker to keep the towed car under complete control at all times. Quicker stops and starts, positive tracking of damaged car with towing car without jerking, side-sway or crashing.

HOLMES STEERING GEAR CLAMP



Enables one man to tow a crippled car in backwards by clamping the parallel rod rig-idly in one position with relation to the front axle. No tools required to attach. It can't slip and fits any make of car.



Vol. LIII

Established 1899

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M. WARREN BAKER, Field Editor ATHEL F. DENHAM, FIEld Editor ATHEL F. DENHAM F. DEN

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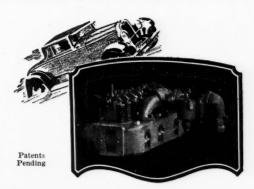
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Greater Speed and Thrilling Performance for any Chevrolet Equipped With a R & R Super-power Cylinder Head

Latest Creation of ROBERT M. ROOF

-assures you 70 and more miles per hour -50 miles per hour in second, and you can depend on the top speed without cut down after hours of continuous driving.

-throttles down to two miles per hour and from standing start it takes full shot of

-at your normal driving speed it has a flash, a brilliance, a smoothness, a quietness you have never before experienced in your Chevrolet.



Get Our Dealer's Proposition

Equipment Complete with Head, 11/4 inch Stromberg Carburetor, Aluminum Cover, and Auto Pulse (gas pump), \$89.50, f. o. b. Anderson, Indiana.

Awarded to the amateur scoring the most points with car equipped with the R & R Head.

R & R Manufacturing Company

Connersville, Indiana, U.S.A.

Cable Address: R. C. O.

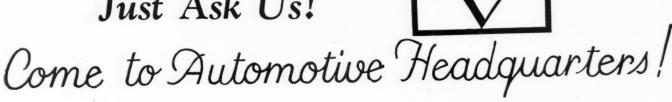
Racing Cylinder Head, using two 11/2 inch Carburetors, \$125.00, f. o. b. Anderson, Indiana.

SPECIAL RACING EQUIPMENT—pistons, rods, pins, springs, gears, radiators, goggles, helmets, suits, chasses, steering devices, one-man bodies, hollow crankshafts, tachometers, speedometers, wire wheels, racing tires.

You Want a Catalog or Literature

The Size or Price of Any Garage Equipment or Parts or Anything Automotive that Interests You-

Just Ask Us!



If you are interested in information about shop equipment, tools, replacement parts, accessories, etc., check them in the squares below, and MOTOR AGE will see that data are forwarded you.

This is the old established MOTOR AGE "Clearing House" service, made easier for you.

Tear Off the Coupon—Check Not More Than 10 Items—Information Will Follow

CHECK NOT MORE THAN 10 ITEMS AND MAIL TO

Motor Age Chestnut and 56th Sts., Philadelphia, Pa.

> I want catalogs or literature about the "Clearing House" items checked below. This inquiry is not an order, nor does it obligate me in any way.

Equipment and Tools	Drain pans, oil	Steam cleaning equip-	Replacement Parts	Shop Supplies
Air compressors	Drill press	ment	Armatures, rewound	Babbitt metal
Aligners, piston and	Drills, electric	Tanks, parts cleaning	Axle shafts	Cement, iron
rod	Drills, twist	_	Bearings, ball	Cement, radiator
Aligners, wheel	Engine stands	Torches, blow	Bearings, replaceable	Cleaners, floor
Bearing babbitting	Fender tools	☐ Vulcanizers	Belts, fan	Covers, fender and up-
equipment	Gages, compression	Washers, car	Brake and clutch lin-	holstery
Benches, work	Gages, dial	Washers, lock	ing	
Benches, electric test			Bushings	Flux, soldering or bab-
Bins, parts, steel	Grinders, flexible shaft	Welding equipment &	Cable, battery	bitting
Brake reliner	Grinders, valve	supplies	Gaskets	Hacksaw blades
Brake tester	Hoists, shop	Small Tools	Gears, rear axle	Packing for pump
Brushes, wire	Hoists, wrecking		Gears, timing	Rod, welding and bras-
Carbon burning equip-	Horses, shop	Clamps, machinists'	Gears, ring	ing
ment	Jacks, dolly	Files	Ignition parts	Paper, emery and sand
Chargers, battery	Lathes	Gages, feeler	☐ Mufflers	Solder, self fluxing
Cleaners, engine	Lubricators, pressure	Hammers, machinists'	Pistons	Accessories
Compound, grinding	Paint spray equipment	Micrometers	Piston pins	Shock Absorbers
Crankshaft returning		Pliers	Plates, clutch	Signal devices
tool	Pullers, bushing	Tire tools	Rings, piston	
Cutters, bolt	Pullers, wheel and gear		Shims	
Cylinder recondition-		Wrenches	Spark plugs	
ing equipment	Refacers, valve	<u> </u>	☐ Valves	· · · · · · · · · · · · · · · · · · ·
Dies and screw plates	Soaps, car washing		Wire, all electrical	
Name		Street and	No.	
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(City		State		

Note: When convenient please enclose business card or letterhead. If from an individual state nature of employment and by whom employed.



From one showroom, A. N. Kline's Studebaker-Erskine business in Reading, Pa., has grown to three large buildings

Writing A. N. Kline's Story in Reading

IN 1915, Mr. A. N. Kline obtained the Studebaker franchise for Reading, Pennsylvania. A rented room, fourteen by thirty feet, sufficed for both office and display. His first year with Studebaker, Mr. Kline sold fifteen new cars.

Mr. Kline's story for the next thirteen years is one of consistent growth. He now owns two large buildings in Reading and operates a branch in Allentown. Each year he sells more than four hundred Studebaker and Erskine Six cars at a profit.

"My success certainly should not be credited entirely to my own efforts," said Mr. Kline. "I could not have made it without this franchise and factory cooperation. I recommend the Studebaker-Erskine franchise to any dealer."

Four Lines in One — \$795 to \$2250

Studebaker now offers its dealers four great lines of cars, ranging from \$795 to \$2250—record-breaking values . . . champion performers! But Studebaker goes further by giving its dealers close friendly co-operation in selling new and used cars, in building service business, financing, etc. Because of

the assistance Studebaker renders in helping its dealers to grow and to prosper, Studebaker has won the distinction of being America's most friendly factory.

The automobile dealer who desires a profitable, stable franchise such as Studebaker offers is invited to write to Department 51, The Studebaker Corporation of America, South Bend, Indiana. All inquiries will be held confidential.



A. N. Kline

STUDEBAKER

America's Most Friendly Factory



THE quickness with which the Vulco Tire is forging ahead in popularity has surprised the whole tire world—and yet there's a very simple reason for it. The fact is that more than ten million motorists were using Vulco products and had acquired a high regard for the name Vulco before the Vulco Tire was ever introduced. A waiting market of ten million friends. No wonder the Vulco Tire is so rapidly becoming a leader!

VULCO TIRES



Making the final adjustments on the Bremen before starting on its epoch making flight.



The Bremen flies to America

-equipped with Robert Bosch Products



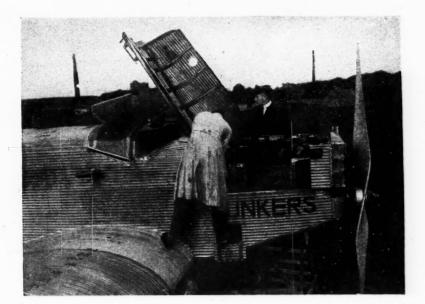
Original-Bosch
Pyro-Action Spark Plug

—helped make history on the Bremen ... as they are making history for spark plug performance on passenger cars, busses and trucks,



Original-Bosch Super-Energy Magneto

—as used on the Bremen....is equally dependable for busses and trucks and tractors.



To THEIR doom or enduring fame—from the coast of Ireland to Canada... swiftly and surely sped the Bremen... on the first successful flight westward across the Atlantic.

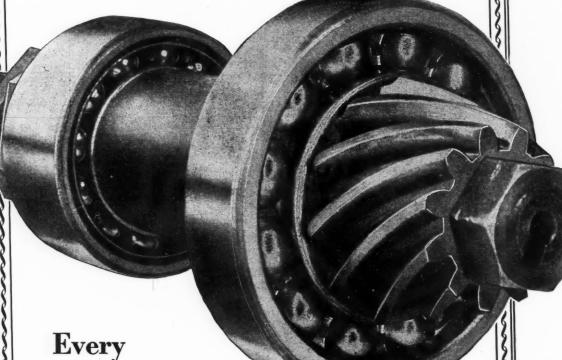
It is a matter of pride to us that the equipment on the Bremen included a Robert Bosch Super-Energy Magneto and Robert Bosch Pyro-Action Spark Plugs.

ROBERT BOSCH MAGNETO CO., INC. 3601-H Queens Boulevard, Long Island City, New York





The full name Robert Bosch and the Robert Bosch trademark appear on all Original-Bosch products—your guaranty of Original-Bosch quality as known the world over since 1887. They are coming—irresistibly/



Every Season

Shows a Gain

for the Ball Bearing Pinion

NOT only in the finer cars. Many makers who are sincerely building for better service have already changed over, or are seriously considering this better type of mounting.

The automotive industry is striving for better cars as a sounder basis of competition. *More than half* of the cars being delivered today have Ball Bearing Pinions.

960

New Departure
Quality
Ball Bearings

MOTOR AGE

VOLUME LIII

Philadelphia, May 10, 1928

NUMBER 19

Ford Four Doors Enter Production

New Models, Long Delayed, Available in Limited Numbers

NEW BRAKE SOON

DETROIT, May 7—Ford Motor Co. has actively entered production of four-door sedan models. The four-door jobs were first revealed to the public at the Ford Industrial Expositions at New New York and Chicago during the automobile show time. Production is understood to have been delayed due to lack of necessary body dies.

The new models are making their appearance on Detroit streets and the Ford company reports that they are being shipped to Ford dealers in limited numbers.

It is indicated that four-door sedan production will be gradually stepped up along with the increased output program at Ford's. Cars are not yet available with the redesigned brake, but they are expected to make their appearance within several weeks.

Enter Third Marmon

INDIANAPOLIS, May 7—A third Marmon 68 Special has been entered in the 500-mile speed classic as a result of a last-minute decision by Earl Cooper, veteran driver, and Col. Howard Marmon, vice-president in charge of engineering of the Marmon Motor Car Co.

Allyn Sales Manager

CHICAGO, May 7—H. H. Allyn has been appointed sales manager of the Warner-Patterson Company of this city, according to announcement made today by J. H. Cattell, general manager. Mr. Allyn has been associated with this company since 1919.

Controls Hoist Division

CLEVELAND, May 5—Columbus McKinnon Chain Co., has acquired control of the hoist division of the Chisholm-Moore Mfg. Co., this city.

R. R. Javens Advanced

MILLERSBURG, PA., May 8—R. R. Javens, for three years sales director, has been advanced to manager of the Alvord-Polk Tool Co.

10,000 Dollars Insurance for 72 Hours: One Cent

SAN FRANCISCO, May 7— Ten thousand dollars accident insurance policy covering the insured for 72 hours, at a complete premium cost of one cent, is the latest offering of the Richfield Oil Co. of California to the motoring public. The policies are on sale at every service station handling Richfield gasoline and lubricating oils.

There are no strings to the policy, and the motorist does not have to buy gasoline or oil at the service station to enable him to take out the insurance. He merely pays his penny and gets 72 hours' protection.

Ford Launches New Credit Corporation

DETROIT, May 5—Formation of the Universal Credit Corp. as an affiliated specialized organization controlled by Ford Motor Co. and operated solely for financing Ford products on a time sales basis, was announced this week by Edsel Ford. Initial capital is more than \$10,000,000.

Ernest Kanzler, former Ford executive and related by marriage to Edsel Ford, will be president; G. H. Zimmerman, formerly vice-president of Commercial Credit Corp., will be vice-president, and B. J. Craig, secretary of Ford Motor Co., will be secretary and treasurer.

Tobias Moto Meter V. P.

LONG ISLAND CITY, May 8—J. J. Tobias has been elected vice-president of the Moto Meter Co., Inc. He has been connected with the company for 12 years as equipment sales manager in Detroit. George Feher has been appointed advertising and sales promotion manager, succeeding A. S. Otton, who has been transferred to the spark plug sales division.

Sold First Studebakers

PHILADELPHIA, May 9—LaRoche Bros., Inc., local dealer, that sold the first Studebaker-built car in Philadelphia more than 22 years ago, has again taken on the Studebaker line.

Matheson Names District Managers

De Soto Sales Head Builds Complete Organization in Two Months

WELL-KNOWN MEN

DETROIT, May 9—To C. W. Matheson, vice-president in charge of sales of De Soto Motor Corp., belongs credit for perhaps the most remarkable organization achievement in years. Within the short space of two months Mr. Matheson has built up for the recently announced new division of Chrysler Corp. an organization of district managers covering the entire country.

Following is the list of appointments:

G. V. H. Cairns

G. V. H. Cairns, New York. Associated with the industry for twenty years; technical field representative with Hudson; assistant to sales manager of Paige-Detroit; in 1914 with Saxon; in 1917 entered Ordnance Tractor Division of U. S. Army; joined Oakland Motor Car Company in 1919 as sales engineer; later assistant manager of the Oakland New York branch and for the last four years Atlanta district manager for Oakland.

F. M. Hunt

F. M. Hunt, Philadelphia. Entered automobile business in 1918 as Chandler dealer at Norristown, Pa.; in 1923 became wholesale manager at Toledo for Cleveland Six; in 1924 joined Oakland Motor Car Company as field representative at Philadelphia; in 1926 became special Oakland representative in Philadelphia and Pittsburgh.

(Turn to page 14, please)

Whippet Claims Record

DAYTONA BEACH, May 4—A speed record for four-cylinder cars is claimed by Wilbur Shaw who this week drove his Whippet Special at an average speed of 134.83 m.p.h. The record of 147.32 is held by a German car, but Shaw claims that it is not official as the car was timed with stop watches, whereas Shaw's mark was timed by the modern electrical method.

Joins Chain Products

CLEVELAND, May 7—John Craig has joined the sales organization of the Chain Products Co. Mr. Craig formerly was connected with Walden-Worcester, Inc., in Middle Western territory. In his new post he will be affiliated with W. S. Bellows, former head of Walden-Worcester.

Race Association Changes Ruling

N.M.R.A. Looks Forward to Most Successful Season in Its History

PHILADELPHIA, May 7-In preparation for what is forecast as the best season the National Motor Racing Association has had, work went forward tonight on the revision of the rule book.

With Leo Cornell, secretary and treasurer of the association presiding, the following rules were approved

for 1929:

The fastest 10 cars to qualify shall be considered A class. Not to exceed 10 cars shall be entered in the 25-mile race on a mile dirt track. Not to exceed eight cars shall be entered in the 10mile race on a one-half-mile track.

Those failing to qualify as A class are rated as B class. Furthermore, any driver who has not won two B class events cannot qualify for an A class contest, no matter how fast his car is. (Obviously this is to protect the cars and drivers of the A class.)

The association has announced the following dirt track schedule for 1928: May 30, Pottstown, Pa.; May 30, Lehighton, Pa.; June 16, Hohokus, N. J.; July 4, Pottstown, Pa.; July 4, Lehighton, Pa.; Aug. 24, Lancaster, Pa.; Aug. 31, Lebanon, Pa.; Aug. 31, Nazareth, Pa.; Sept. 1, Lehighton, Pa.; Sept. 3, Pottstown, Pa.

R. W. Austin Heads New Graham-Paige Division

NEW YORK, May 7-R. W. Austin has been appointed manager of a newly created national business division of the Graham-Paige Motors Corp. He will be in charge of fleet sales, with headquarters at 1 East Forty-fourth St.

Renault Visits U. S.

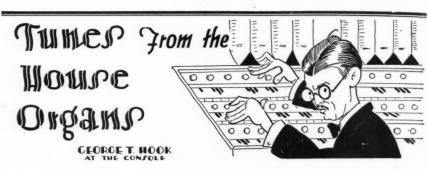
NEW YORK, May 3-Louis Renault, French automobile manufacturer, who is in this country surveying conditions in the industry, has with him a set of pictures which serve to illustrate very graphically the development of the automobile during the past 30 years.

Jim Martin Shoots 44 to Win

NEW YORK, May 5-James Martin, of the Martin Automotive Corp., was the winner of the first golf tournament of the Automobile Merchants Ass'n, Inc., held at Dunwoodie Golf Club, Yonkers, N. Y. He shot 44 gross with a 13 handicap.

Tyas Heads Providence Group

PROVIDENCE, R. I., May 4-H. W. Tyas, Studebaker-Erskine distributor, has been elected president of the Rhode Island Automobile Dealers' Association.



OME practical joker (I have my eyes on him this very moment) sent your organist's name as a membership prospect to the American Federation of Musicians and the result has been an embarrassing solicitation. It was with no small amount of blushing that we got over the fact to the walking delegate, or whatever he's called, that we're an organist merely in the mythical sense. He noticed our confusion and tried to put us at ease with a facetious "Well, the high opinion most organists have of themselves is no less mythical." But although we have a vacant space in our six-membership-card wallet we refused to be wheedled into signing away our amateur status. We finally get rid of him by giving him the names of a brother editor who gets inspiration playing a glookenspiel, and an artist who vibrates hill-billy tunes on a jew's-harp. At that they are better material for the union than we, who as organist are limited to "Home Sweet Home" (with salivary gurgle obligato) on a mouth organ.

The only edifying feature of the joke was the promptness shown by the union's agent in following up the prospect tip. A combination of livewire automobile salesman and Charlie Paddock could not have bettered

Such agility apparently is not the ever-present attribute of most salesmen. An article in the Chandler Times directs attention to the commoner propensity of procrastination. "Ever notice," the critical item goes, "how easy it is to persuade yourself that you ought to let up for a spell? When you've had a run of good going it is regular stuff to say: 'Golly (evidently a censorial coinage), it surely took a lot out of me to land that fat amount of business. Guess I had better rest up a bit.' Then again the mid-afternoon tired feeling (isn't this beginning to appear familiar?) gets to your sympathetic ear and persuades you to let up or give up. Think of the incongruity of this. You are engaged in the pursuit of persuading other people to give in to you, and you turn around and give in to yourself. Why, man, it's like turning your own gun on yourself. Why do it?"

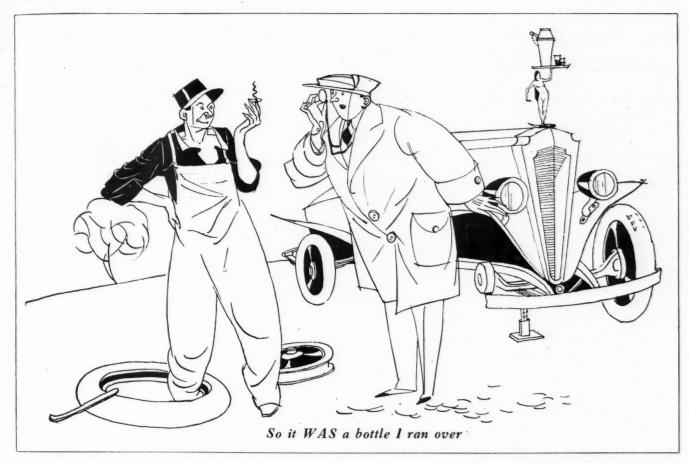
When the staff falls short of expected productiveness and inventory grows fat, the sales manager might make good use of this bit in his conference sermon:

Old Gentleman (seeing the small colored boy was having some trouble in getting away with the large melon he was trying to eat)—"Too much melon, isn't it, Rastus?" Small Colored Boy-"No suh, boss! Not 'nuf niggah!"-Horst "Profits."

And so, he can apply the parallel, it isn't a case of too much stock, but "not 'nuf ackshun!" etc., etc., etc. (Who threw that watermelon?)

But seriously, as the matter should be treated, the Dealers' Bulletin of the Franklin Automobile Co. points out that the "floor day" has been proved to be a fertile period for the salesman to stir up new leads. "Here is an opportune time," a successful veteran sales manager declares, "to use the telephone calling up the neighbors and friends of persons who have just bought cars and attempting to interest them in a demonstration, or in following up new owners asking them if they have received any comments from their friends who might present leads. Here also is the opportunity to write letters stressing points which have been brought out in interiews and which have appeared to appeal to prospects. Used-car buyers should not be overlooked in this canvass. Even time spent in introspection and self-analysis attempting to improve the personality and sales presentation is not wasted."

MOTOR AGE, we notice, is indebted for courteous mention to The Blackhawk????—a house organ still unchristened—which reprinted one of the dizzy "Helpful Hints." The Blackhawk Mfg. Co. has a name contest on and since there's no cover charge we venture the following suggestions: "The Blackhawk Wroost" (tying up with wrench), if hawks roost, and "The Blackhawk Cause," if those birds caw. Gad, what a vainless, painful effort it was to think up those two names. After we had generated two attacks of headache and subdued them with a pair of Seidlitz powders, we learned that the contest closed April 10. For a fact, "there ain't no jestice."



Italian Plans Attack on World Speed Mark

NEW YORK, May 7—Word has been received from Rome that Major De-Bernardi, holder of the world's hydro-airplane speed record, is having a special automobile chassis built which he will use to compete for the automobile speed record. The car will use the 1000 hp. Fiat engine which powered the plane in which he won the aviation speed record. The chassis is now being built at the Fiat plant.

G. D. Keller Advanced

SAN FRANCISCO, May 4—George D. Keller has been named division manager in charge of all Pacific Coast branches by the Studebaker Corp. of America. T. F. Laughlin, assistant to Mr. Keller, succeeds him as manager of the local branch.

Murray Advances Two

TRENTON, N. J., May 5—The Murray Rubber Co. has advanced two district sales managers. John J. M. Hower, of Boston, has been made special factory representative for New York, New Jersey, Pennsylvania, Delaware, Maryland, Virginia, West Virginia and New England States. Edward G. Upchurch, of Montgomery, Ala., will cover the Southern States.

Graham Heads Peoria Dealers

PEORIA, N. Y., May 8—The following directors and officers for the department at the factory coming year were elected at the annual service division in Cleveland.

meeting of the Peoria Automotive Dealers Association:

Officers: Lester E. Graham, Graham-Seltzer Co., automotive jobber, president; T. K. Morrow, vice-president; John Fried, Peoria Autobody Repair Co., corporation secretary, and H. D. McCullough, treasurer. C. W. Coons was reelected executive secretary.

Directors: Merle Smith, Smith Bros., Inc., Packard dealer; T. K. Morrow, Thayer K. Morrow, Inc., Chevrolet distributor; H. D. McCullough, Mackemer Motor Co., Ford dealer, and A. J. Traeger, Peoria Machine Shop.

Lincoln Makes Changes

CLEVELAND, May 4—The Lincoln Electric Co. announce the following changes and additions to their sales and welder service divisions.

H. A. Stamper has been placed in charge of consumer motor sales in the New York district; D. F. Titus, is now in charge of welder service in the New York district; A. H. Kirkpatrick replaces D. W. Carver as manager of welder service in the Cincinnati district, Mr. Carver having been transferred to the Cleveland district, and H. E. Nelson, formerly with Willys-Overland Co., has taken charge of consumer motor sales in the Cincinnati district.

P. A. Ludwig has assumed charge of welder service in Philadelphia and vicinity; Forrest Kessler has been transferred from the welding time study department at the factory to welder service division in Cleveland.

C. K. Fielder Assistant Trindl Sales Manager

CHICAGO, May 3—C. K. Fielder has been appointed assistant sales manager of the Trindl Corp. He has already assumed his new duties.

Ira Saks Heads N. O. P. A.

CLEVELAND, May 7—Ira Saks, president of the Accurate Parts Mfg. Co., Cleveland, has been reelected president of the Northern Ohio Parts Association. W. L. Primm, Motive Parts Co., is vice-president; W. F. Burrer, Aberdeen Motor Supply, treasurer; E. M. McPhillips, Hersch Parts Co., secretary. Walter Abel, Abel Automotive Bearing & Equipment Co., and Robert Miller, Replacement Parts Co., were elected directors.

Allen Talks at Buffalo

BUFFALO, May 3—Floyd A. Allen of Detroit, associated with Alfred P. Sloan, Jr., president of the General Motors Corp., addressed the recently formed General Motors Club of Buffalo, at its first banquet in the Statler.

Coon President Lancaster Dealers

LANCASTER, OHIO, May 4—William S. Coon, has been elected president of the Lancaster Automobile Dealers' Association, succeeding George W. Johnson, who headed the organization since its organization.

Stutz Introduces Collapsible Types

Adds Two Limousines and a Sedan; Price Range of New Cars Low

INDIANAPOLIS, May 5—The Stutz Motor Car Co. of America, Inc., is offering a sedan and two limousines of the custom-built, fully collapsible type.

Coincident with the announcement it is stated that these latest models will set a new low price range for cars of their type, the five-passenger sedan listing at \$4,495, the five-passenger limousine at \$4,595, and the seven-passenger limousine at \$4,695.

Production is already under way, and delivery will start this month. Mounted on the 145-in. Stutz chassis, the new bodies are being built by Philips, a leading custom creator, who has built cabriolet-coupe bodies for Stutz during the past two years.

Ray Keech Takes Over Lockhart's Contracts

INDIANAPOLIS, May 4—Arrangements have just been completed for Ray Keech, speed champion of the world, to take over much of the work begun by Frank Lockhart.

Under the direction of William Sturm, who is now manager for Keech, a number of Lockhart's contracts have been taken over and it is expected that more will be taken over in the near future.

The 91-in. Miller racing car of Lockhart's may be obtained by Keech to drive at Indianapolis.

Joins Campbell-Ewald Co.

DETROIT, May 7—Earle V. Weller has been named Pacific Coast manager of the Campbell-Ewald Co., international advertising agency. He was formerly publicity director for the National Automobile Club and editor of the National Motorist.

Buys Chicago Showroom

CHICAGO, May 7—Rowe, Young & Cooley, Nash dealer formerly located at 3937-49 Washington Blvd., has purchased the building at 4660-62 Washington Blvd. This building was originally constructed for the Cadillac Company.

Takes on Studebaker Line

GREENSBORO, N. C., May 8—The Studebaker corporation has made J. E. Carroll local distributor.

Sackenmaur Co. Adds Lines

HOLMESBURG, PA., May 7—The George Sackenmaur Co. announces the Jiffy compressor and Jiffy spra. Plans for expansion are in charge of F. N. Supplee.

Real Old Timers



Lewis Archambeault

STUDEBAKER can point with pride to these old-timers. Mr. Archambeault,



August J. Raabe

born 1862, joined the company in 1873. Mr. Raabe, born 1862, was taken on in 1874 and Mr.



George E. Bernhard

Bernhard, born 1860, came to Studebaker in 1875. And they're all still putting in a full day!

Excise Tax Cut Thought Certain

President Said to Favor its Elimination; Agreement Expected Soon

WASHINGTON, May 4—The Senate tax bill (H.R. 1), carrying a total reduction of \$203,000,000, was reported out of the Senate finance committee today, providing for the elimination of the 3 per cent automotive excise tax. Senator Smoot, chairman of the committee, stated orally that the bill would be called up for consideration by the Senate on Thursday of this week. The measure, as it passed the House, which also eliminated the 3 per cent automotive tax, carried a total of \$290,000,000 reduction.

Repeal of the automobile tax is a foregone conclusion, inasmuch as both the majority and minority members of the committee voted unanimously for its repeal.

It was stated that the President stands ready to approve the reduction.

New Graham-Paige Body Plant is in Production

EVANSVILLE, IND., May 9—Additional bodies to supply the demand for Graham-Paige cars are now being made at the plant of Motor Bodies, Inc., a recently organized subsidiary of Graham-Paige Motors Corp.

Eaton Axle Profits Up

NEW YORK, May 7—Eaton Axle & Spring Co. reports net income for the first quarter of the current year before Federal taxes as \$315,320. This is equivalent to \$1.25 a share.

Oakland Makes Record

DETROIT, May 7—April was the biggest month in the history of the Oakland Motor Car Co., A. R. Glancy told the Chilton Class Journal today. Output was approximately 27,000 Oakland-Pontiac cars and this same schedule will be approximated in May, he said.

New Pierce-Arrow Model

BUFFALO, N. Y., May 8—A new and lower priced model, the Series 81, five-passenger club brougham is announced by the Pierce-Arrow Motor Car Co. The new body style is priced at \$2,750 and is offered in three color options.

Two New Trindl Catalogs

CHICAGO, May 5—The Trindl Corp. has just completed two new catalogs, one, of 25 pages, on piston pins, and the other, of 18 pages, on bolts and bearings. A third catalog on the standard type of valves will be ready for distribution about the middle of this month.

It's Open Season for the Inventor

Rubber Fenders, Perpetual Motion, Find Indorsers in Pleas to Engineers

By A. H. Knight*

SPRING days that inspire spring poets also mark the open season for the itimerant automobile inventors. They are arriving in fleets with acceleration of thought that causes traffic jams in the offices of motor car engi-

Engineers also find they are flooded with mail containing some rather startling ideas such as:

How about rubber fenders?

Are you interested in a celluloid surface for a car finish with several layers so it could be peeled annually for a fresh appearance?

Can you afford to turn down a carburetor that plays with gasoline all day, keeps the engine humming, and returns the gas to the tank every

How about a radio ignition system with call letters for each cylinder?

Could you use a red light on the dashboard that becomes illuminated when you exceed the speed limit?

Pardon me a moment while I see this man with a substitute for head-

*Consulting Engineer, Dodge Bros., Inc.

Gardner Business Good

ST. LOUIS, May 8-Progress of Gardner Motor Co., Inc., is reflected in the three months' earning statement just issued by Russell E. Gardner, Jr., president. Net income for the quarter ending March 31, 1928, after interest and charges but before Federal taxes, was \$104,268, equal to 52 cents per share on the 200,000 shares of common stock outstanding. These earnings were five times the earnings for the same period in 1927 and approximately 75 per cent of the first six months of 1927.

Headlight Laws

A highly helpful compilation of the headlight laws of the different states has been made by the National Lamp Works of the General Electric Co. This compilation is in the form of a chart measuring approximately 18 by 30 in. and should prove valuable for reference.

Becker-Stutz Moves

BOSTON, May 3-The Becker-Stutz Co., New England Stutz distributor, has moved into new quarters at 820 Commonwealth Ave.

Packard Electric Buys Plane

WARREN, OHIO, May 5-Packard Electric Co. has purchased a Stinson-Detroiter six-passenger monoplane to be used in sales work.

Chairman of the Peerless Board



Robert M. Calfee

GENTLEMEN, meet Robert M. Calfee, chairman of the board of the Peerless Motor Car Corp. While he is not an "actively operating member" of the peerless Peerless Sextet, he is always ready to serve in an advisory way and to help in a solution of the company's problems. An able attorney, he has acted as Peerless counsel through several administrations. It is anticipated that his cooperation and sound judgment will continue to prove helpful to the German management.

Wheel Alignment Book

WHEEL Alignment and Axle Assembly in the Modern Motor Car" is the title of the latest book published by the Runtru Automotive Equipment Co., 305 Union Oil Bldg., Seventh and Hope Sts., Los Angeles. This book, by the Runtru technical staff, is a treatise on camber, toe-in caster and turning radius alignments in motor vehicles, up to and including the 1928 models.

Change Convention Date

The Mackinac Island summer convention of the Automotive Equipment Association will be held the week of June 17-23 instead of the week beginning June 10, as originally planned.



Buick's first advertisement from MOTOR AGE, April 26, 1906

Nomadic Trekkers Take to the Road

Big Opportunities for Retailers as 40 Million Tourists Get Under Way

CHICAGO, May 4-Nomadic Americans, probably more than 40,000,000 of them, will spin over the highways and byways this summer under the classification of "automobile tourists" and already the advance guard is on the road.

Before the summer is over this touring horde will doubtless have spent \$3,500,000,000 for sardines and crackers, baked beans, automobile tires, gasoline, radius rods and other requisites

of the rambling life.

Possessed of a motor car pulled by the power of 20 or more horses the motorist's only handicap is that of poor roads, of which there is still an all too plentiful supply. The tremendous tourist travel that now exists is due to the roads that have been improved. Further road betterment will place the great outdoors still closer to the city. The worker with but two short weeks' vacation may be enabled to visit his aunt 2000 miles away with comfort.

Brake Testers Profitable

HARTFORD, CONN., May 8-Local motor car owners are giving more attention to their brakes than in former years, due in large measure to the installation of special brake testing machines by various concerns about

It is such a simple matter for owners to drive their cars onto these testing machines and determine in a few minutes just how good or bad their brakes may be that the owners of the equipment draw down considerable business. As a matter of fact these special testing machines are credited with paying for themselves in a short time by shop owners who have bought

Several firms are now featuring drum refinishing.

Aviation Interest Gains

NEW YORK, May 8-Popular interest in aviation and increased confidence in its utility for transport, materially stimulated by the transoceanic flights, resulted in an almost vertical growth of commercial aviation during 1927, according to the tenth aircraft year book just published by the Aeronautical Chamber of Commerce, Inc.

Will Step-Up Output

DETROIT, May 7—Graham - Paige Motors Corp. will proceed with plans for additional facilities at the Detroit plant which are expected to increase capacity 33 1/3 per cent by July 1. Directors authorized this expansion last

Matheson Names District Managers

(Continued from page 9)

Charles E. Thompson

Charles E. Thompson, Boston. Twenty years ago started in automobile business as Eastern district manager at New York for the Chalmers Motor Car Company; for six years, until 1922, was Eastern zone manager at New York for the White Motor Car Company, passenger car division; later became connected with the Lincoln Motor Car Company as assistant supervisor of sales at New York; for last three years has been supervisor of Lincoln sales in New England and retail branch manager for Lincoln at Boston.

A. C. Maucher

A. C. Maucher, Pittsburgh. Starting as a shop worker in 1902, he became in turn demonstrator, Glidden tour driver, service manager, sales manager and distributor; most of his experience was with Peerless at Philadelphia; from 1913 to 1915 was automobile advertising manager for the Philadelphia Press, leaving to become the first Philadelphia dealer for the Standard Steel Car Co.; after serving as assistant to the general manager of the Standard Steel Car Company, became treasurer and general manager of the Durant branches in the Philadelphia territory; most recently has been sales manager of Peerless at Philadelphia

J. G. Shelley

J. G. Shelley, Buffalo. Sixteen years' connection with Packard in virtually all phases of production, sales and service; in 1924 joined Dodge Brothers and went to Russia in connection with the entry of Dodge Brothers and Graham Brothers trucks in the Soviet government reliability trials; since 1925 has devoted himself to national business for Dodge cars and Graham Brothers trucks.

F. C. Van Derhoof

F. C. Van Derhoof, Albany. Joined Ford Motor Company as Philadelphia branch manager in 1906; later was Philadelphia distributor for Oldsmobile and Oakland; for eight years following 1910 was manager of the automotive department of the Standard Steel Car Company; most recent connection has been as district manager for Franklin in Philadelphia.

John R. Berry

John. R. Berry, Cleveland. Field representative for Dodge Brothers in Cleveland during 1921 and 1922; later represented Dodge Brothers as field representative in San Francisco; most recently associated with Dodge dealer at Los Angeles; resigning to take up his new duties with De Soto Motor Co.

Willard Karl

Willard Karl, Washington. As field representative for Chandler, Mr. Karl became identified with the industry in 1916; in 1925 joined the Willys-Overland distributor at Washington as manager; later appointed branch manager for Willys-Overland at Philadelphia.

C. B. Gaunt

C. B. Gaunt, Detroit. During last nine years, sales manager for the Paige Motor Car Company; first connection with the industry was assistant sales manager of the Knight Tire and Rubber Company, following which he handled Paige and Pierce-Arrow cars as a dealer at Dallas, Texas.

W. M. Hogle

W. M. Hogle, Chicago. Starting in 1909 as experimental engineer for the Brush Motor Car Company, later served as sales manager for the Sheldon Axle Company at Detroit; was an organizer of the Republic Truck Company and in 1915 joined Dodge Brothers; became Detroit district manager for Dodge Brothers and later Dodge district manager at Columbus; acquired an interest in the Dodge dealership at Denver; more recently has been Oakland-Pontiac dealer at Oklahoma. City, Oklahoma.

George H. Cox

George H. Cox, Kansas City. In 1895, went with Pope Manufacturing Company as field representative; after ten years became associated with Thomas B. Jeffery Company in the same capacity and later as assistant sales manager; in 1914 was Kansas City district manager for Dodge Brothers and in 1916 he joined Willys-Overland in the same capacity; in 1924 became branch manager for Reo Motor Car Company.

A. L. McMeans

A. L. McMeans, San Francisco. In 1908 appointed office manager of Dodge Brothers, becoming secretary of that company in 1914; in 1920 became president and general manager of Michigan Lubricator Company; for the last four years has been San Francisco district manager for Oakland Motor Car Company.

T. E. McMeans

T. E. McMeans, Portland. In 1904 joined Cadillac as a sales executive; in 1910 he went with E. M. F. Company for whom he became territorial manager in the Western district; for seven years ending in 1924, Mr. McMeans operated the Twin Valley Motor Company at Johnstown, Pa., handling Dodge Brothers cars; most recent

connection has been as district manager for Oakland Motor Car Company at Seattle.

Fred C. Clough

Fred C. Clough, Denver. From 1914 to 1916 traveled extensively, establishing dealers for Buick; for the five years following handled wholesale department for Cadillac at Omaha and later was manager of Cadillac at Sioux City, Ia., for two years; with the introduction of the Pontiac, joined the Oakland Motor Car Company as district supervisor of merchandising.

W. B. Gleeson

W. B. Gleeson, Minneapolis. In 1908, while secretary and treasurer of the Stinson Tractor Company of Minneapolis, became identified with the automobile business as secretary of the Automobile and Tractor Trade Association in that city; later became branch manager at Portland and Spokane for the Moline Plow Company; since 1921 has made his headquarters in Detroit as a manufacturers agent.

E. F. Boissevain

E. F. Boissevain, Fargo. In 1913 employed by the Lozier and Reo dealers in Seattle; later became field mechanic for Dodge Brothers in the Northwestern teritory, followed by two years with the B. F. Goodrich Rubber Company at Los Angeles and San Francisco; in 1919 joined Dodge Brothers as field representative in the New York district and later in charge, for several years, of retail sales for the Dodge dealer at Jersey City.

E. V. Jolliffe

E. V. Jolliffe, Oklahoma City. Comesfrom the H. M. Robins Company, where he has been associate manager in charge of automotive equipment sales abroad; earlier was assistant to the director of sales development for the Oakland Motor Car Company.

C. A. Loomis

C. A. Loomis, Omaha. In 1915 became field representative in the Omaha district for Dodge Brothers; in 1919 transferred to the Chicago territory in the same capacity; in 1920 appointed Omaha district manager for Dodge Brothers; in 1927 become senior member of Loomis & Lyons, Dodge Brothers dealer in LaSalle, Ill.; later became associated with the Dashiell Motor Company, at Chicago.

Lee Francis

Lee Francis, Dallas. Was traveling passenger agent for the Texas and Pacific Railroad until 1921, when he became retail sales manager for Hudson-Essex at Dallas; for the last four years has been connected with Buick distribution in that city.

John H. Gordon

John H. Gordon, Atlanta. Since 1914, Mr. Gordon has been associated with Dodge Brothers; for five years was Atlanta district representative and later London district representative with supervision over the British Isles and Continental Europe; later became Dallas and New York district representative respectively and, more recently, director of distribution for Dodge Brothers.

L. J. Hannah

L. J. Hannah, Cincinnati. For the last ten years has been identified with the distribution of Dodge cars at Louisville.

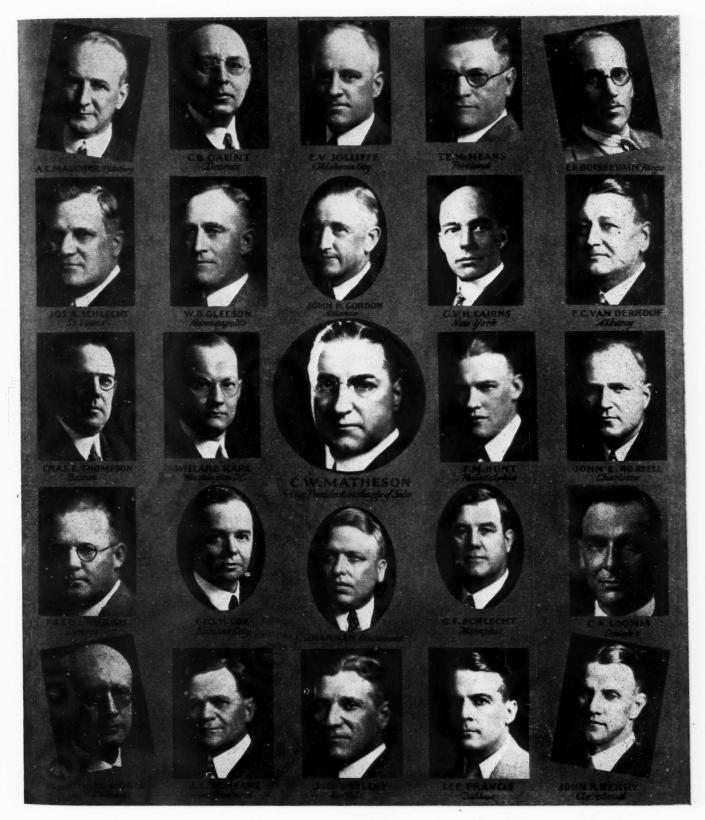
Traffic Congestion Costs Boston Plenty

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BOSTON, May 4—Traffic congestion in local streets is responsible for a loss of \$26,000,000 per year divided between \$24,000,000 for loss of time by riders in vehicles and \$2,000,000 due to collisions, Dr. Miller McClintock told Boston's Traffic Committee in a recent preliminary report.

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Congestion also raises the price of every commodity sold in Boston on which cartage charges are collected. On a normal business day 817,000 persons enter the Boston business district. It is on them the burden falls through delays equivalent to 17,000 working days.



C. W. Matheson and District Managers

Gustave F. Schlecht

Gustave F. Schlecht, Memphis. In 1905 ber of Commerce for several years. became wholesale representative with the became wholesale representative with the Moon Brothers Carriage Company at St. Louis; from 1910 to 1915 was field representative for Buick at St. Louis; and from 1915 to 1925, was dealer for Dodge Brothers at Memphis; organized the Memphis Auto Dealers Association of which he served as president and vice-president;

was also a director of the Memphis Cham-

J. E. Rossell, Charlotte. Graduated from West Point in 1911 and served as Major in the U. S. Air Service until the close of the World War; later became manager and member of the firm handling Dodge Broth-

Joseph A. Schlecht

Joseph A. Schlecht, St. Louis. Was president of the Mound City Auto Company, which he was active in organizing, for seventeen years; also served as treasurer of the St. Louis Auto Dealers Association for five years, later becoming president of the same organization and was a member of the association's board of directors for twelve years.

What's Coming In Motordom

SHOWS

- Automotive Equipment Ass'n, Coli-seum, ChicagoOct. 22-27 *ChicagoJan. 26-Feb. 2
- National Standard Parts Association, Cleveland Auditorium...Oct. 29-Nov. 3
- *New YorkJan. 5-12
- *Will have special shop equipment exhibit.

CONVENTIONS

- American Automobile Trade Association, Annual Meeting, Cincinnati, June 28-29
 Automotive Engine Rebuilders Association, Coronado Hotel, St. Louis, June 11-14
 Automotive Equipment Association, Grand Hotel, Mackinac Island, June 17-23

- Automotive Equipment Ass'n, Coliseum,
 ChicagoOct. 22-27
 National Association of Automobile
 Show and Association Managers,
 Drake Hotel, ChicagoJuly 26-27
- National Standard Parts Association, Hollenden Hotel, Cleveland, Oct. 29-Nov. 3
- Society of Automotive Engineers, Chateau Frontenac, Quebec. June 26-29
- Utah Automobile Dealers Association, Salt Lake CityMay 16 World Motor Transport Congress, RomeSept. 25-29

RACES

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June 10-A. E. A. Summer Meeting Number, Motor World Wholesale June 23—Engineering Issue—Automotive Industries

Franklin Undergoes Test

NEW YORK, May 7-A Franklin car, under auspices of the good roads movement sponsored by the Buenos Aires newspaper, La Razon, has just completed an 8000-kilometer tour through the widely varying temperatures of the pampas in Argentine, Bolivia and Chili. Twenty-two days were required for the trip which started at Tupiza, Bolivia, and ended at Punta Arenas, Chile, only 10 degrees from the Arctic circle.

Facts and Figures Ready

NEW YORK, May 5—Facts and Figures of the Automobile Industry, 1928 Edition, published by the National Automobile Chamber of Commerce, is just off the press this week.

Chrysler Net Gains

NEW YORK, May 8—Chrysler Sales Corp. reports net profit after taxes and other charges for the first quarter of the current year of \$4,702,465. This is equivalent after preferred dividends to \$1.57 on the common stock and compares with profit of \$4,392,568, or \$1.46 a share, for the corresponding period of a year ago.

Studebaker Gain Large

DETROIT, May 4-A. R. Erskine, president of the Studebaker Corp. of America, states that production and sales of Studebaker-built cars during April approximated 14,500 units compared with 2900 in April, 1927.

Durant Overseas Plants

NEW YORK, May 7-Durant Motors. Inc., will establish two assembly plants in Europe, one in France and one in Germany, according to an announcement just made by T. S. Johnston, assistant to W. C. Durant.

Adds to Plant Efficiency

CLEVELAND, May 7-Jordan Motor Car Co. has made extensive alterations and changes in the factory layout and assembly lines under direction

of R. A. Mitchell, recently appointed works manager. Through these changes, and through the addition of a number of time-saving devices, the company reports production time on each car cut nearly 25 per cent.

Studebaker Adds Models

SOUTH BEND, IND., May 7-Announcement has been made by the Studebaker Corp. of the addition of three new cabriolet models to the President. the Commander and the Erskine Six.

Largest April Output

DETROIT, May 7-National Automobile Chamber of Commerce estimated production in April totaled 369,854 cars and trucks. It was the largest April in the association's history, exceeding April output of 1927 by approximately 8 per cent.

April production, however, showed a decrease of approximately 8 per cent under March, which was the record month for all time, when 402,434 cars and trucks were made by association members.

Hupp Business Grows

DETROIT, May 8-In outlining the marked gains in business the Hupp Motor Car Corp. has had during the first four months of 1928, R. F. Cole, general sales manager, told Chilton Class Journal Co. that his company entered May with 4829 unfilled orders on the books, and, inasmuch as these do not include the May requirements of Hupmobile dealers it appears that the corporation will continue to be snowed under with far more orders than can be filled.

Heads Rochester Automobile Men



Charles P. Gallagher

MEET the president of Gallagher Motor Co., Inc., Studebaker-Erskine distributor for Rochester, N. Y., who was recently elected president of the Rochester Automobile Dealers' Association.

Willys Nets \$36 Per Car

TOLEDO, May 8-Net earnings of \$2,802,896 for the first quarter of 1928, after interest but before Federal taxes and a special charge-off for rebates to dealers on price reductions announced in January, were reported today by the Willys-Overland Co. This is equal to an average net profit of \$36 per car on the 76,698 cars built in the three months.

Bonds Retired

DETROIT, May 5-Motor Products on May 1 retired the balance of its bonds outstanding, totaling approximately \$1,000,000, it was announced at the annual meeting held in New York. The report that application has been made to list the stock on the New York stock exchange was also confirmed.

Big Rebate to Willys' Dealers

Payment Following Whippet Price Cut Amounts to \$1,155,320

TOLEDO, May 5-Net earnings of \$2,802,896 for the first quarter of 1928, after interest but before Federal taxes and a special chargeoff for rebates to dealers on price reductions announced in January, were reported today by the Willys-Overland Co. This is equal to an average net profit of \$36 per car on the 76,698 cars built in the three months.

The special chargeoff the company took in January due to rebates to dealers on stocks of cars at the time of the price cut on the Whippet is shown as amounting to \$1,155,320, which reduced the net earnings to surplus to \$1,647,575.

Lexington Tire Men Organize Association

LEXINGTON, KY., May 7-Tire dealers here have formed the Lexington Tire Dealers' Association with Shelby T. Harbison, Jr., as president; Eave V. Lagrew, vice-president, and J. P. Parker, secretary-treasurer.

Thompson Promotes Two

CHICAGO, May, 8 - Ed Syvertsen. who has been assistant sales promotion manager of Thompson Products, Inc., since the company entered the replacement field in 1924, is now district manager of the Middle Western territory, with headquarters in this city. C. L. Davidson, formerly Chicago branch manager, has been transferred to Cleve-

Bordino Killed in Crash

PARIS, May 4-Swerving to avoid a dog, while practicing on the road near Alexandria, Italy, Pietro Bordino and his mechanic Lasagne were killed instantly when their Bugatti car overturned in the ditch. For more than 20 years Bordino had been connected with the Fiat company.

Connolly With Hayes

DETROIT, MICH., May 5-E. J. Connolly, prominently identified for many years with the advancement of automobile body engineering and design, has joined the staff of the Hayes Body Corp.

Biggest Reo Business

DETROIT, May 7-Business of the Reo Motor Car Co. has reached the highest point in its history, C. A. Triphagen, general sales manager, told the Chilton Class Journal today. April deliveries totaled 5293 units.



By Lewis C. Dibble

-ive study the J. W. Murray Manufacturing Co., a FTER exhaust-A division of the Murray Corp. of America, is going to make mufflers. The device will be known to the trade as MurGray and will be made for both original equipment and for replacement on all principal makes of cars. Edward H. Radecky has joined Murray to help merchandise the new product and Emmett P. Gray, well-known in the muffler field, has joined the company in a consulting capacity.

Attractive offices at 2-163 General Motors building, have been opened by the Biflex Products Corp. They replace the company's factory branch at Woodward and Antoinette. Floyd A. (Honey Boy) Adams, sales manager of the original equipment division and his assistant P. S. (Postscript) O'Leary will occupy the new quarters. The company has turned over the service work formerly conducted at the branch to the local distributors in Detroit.

R. TRACY, who has done such a whale of a job directing the sale of • Oaklands and Pontiacs, is back in Pontiac with a fresh coat of tan and a new tingle in his eye after a couple of weeks at White Sulphur Springs.

R. S. Cole, under whose direction more sales records have been hung up by Hupmobile in the past 12 months than were established in the entire history of the company, told us the other day that business is rolling in so fast that the company finds itself continually swamped with orders.

> * *

* B ESIDES their interest in manufacturing motor cars Mr. and Mrs. C. W. Nash always take an active part in civic undertakings in Kenosha. Their latest offer, and one that is mighty worthy, is a promise to donate \$400,000 toward the cost of a new Y. M. C. A. building, provided the city of Kenosha will provide a like amount.

After eight years as sales manager of the Van Wheel Corp., L. L. (Cap) Kinstler has resigned to become manager of the Nelson Wheel Division of the Michigan Steel Castings Co. The Nelson Wheel division is a new activity for the Michigan Steel Castings Co. and will specialize on manufacturing a new type of pneumatic wheel for heavy duty commercial vehicles.

RANK W. RUGGLES of truck fame is back in business again. This time he heads the Dual Duty Co., of Alma, which plans to manufacture an auxiliary axle for Ford and Chevrolet trucks. The axle will be mounted tandem to the regulation axles and will increase the wheelbase approximately 42 inches.

* * * *

"In the spring, a young man's fancy lightly turns to thoughts of love," is a wisecrack we've heard for years, and, from recent observations it appears that it affects advertising men just like anybody else. As an example Bob MacDonald, of MacManus, Inc., and Roy N. McCarty, of the McCarty agency, are now on their honeymoons.

Black & Decker Changes

TOWSON, MD., May 8-J. C. Goodnight has joined the selling force of the Detroit office of the Black & Decker Co. Leon A. Hardy replaces Jack Caffrey in the New York branch.

A. E. Busse Heads N.S.D.A

CHICAGO, May 5-Albert E. Busse, of Wm. Busse & Son, Inc., Buick dealer at Mount Prospect and Park Ridge, has been elected president of the Northwest Suburban Dealers' Association, succeeding W. B. Melzer.

Dodge Offers New Coupe and Two Special Sedans

DETROIT, May 4-A two-passenger coupe has been added to the Senior Six line by Dodge Brothers, Inc., priced at \$1,495 with standard equipment and \$1,650 with sport equipment.

Dodge Brothers is also providing a limited quantity of Victory Six sedans, both de luxe and standard models, with divided adjustable front seats. Prices are \$1,182.50 for the de luxe Victory sedan and \$1,107.50 for the standard Victory sedan.

John Cleary Says—

A ballplayer who has passed forty has outlived his usefulness.

Consider those decrepit old men of the diamond—Ty Cobb, Tris Speaker and Jack Quinn—now handicapping the Philadelphia Athletics in the fight for the American League pennant.

At the time this is written the Athletics have won only eleven of the last twelve games they have played.

Cobb and Speaker, working in every game, have been given the lions' share of the discredit for this lamentable showing, as well as for the profanely large gates at the Macks' games this season.

In one game the best the doddering Ty could do was a crawl from first to home on an infield out.

Next day, Tris could only bring Ty across ahead of him with a homer, winning the game.

Jack Quinn, cheating the Old Ballplayers' Home, could do no better than win both games he pitched in that list of ten. His record to date is only two wins out of three.

To be sure, some of the blame should be laid at the slow-motion feet of the coaches—the octogenarian Kid Gleason, the feeble Eddie Collins and the passe Ira Thomas—and at the impotent arm of the lean trainer—Doc Ebling.

Not to mention that cripple with the broken leg on first base—Joe Hauser—who has been able to get only 5 home runs in the 16 games the A's have played, against the 6 that Babe Ruth has larruped in the 20 games the Yanks have played.

What an object of pity is the aged impresario of this aggregation of antiques and valetudinarians—Connie Mack.

And what a corroboration of the wisdom of the policy of those astute automotive sales managers who have no room for a salesman past forty.



They Found Themselves

ECOND place in Spokane County, Washington, registrations for 1927 and a strong second for the first three months of this year.

Such is the highly commendable records which the Transport Motor Co., Spokane, Willys-Overland distributor for Spokane County, has established.

Now, when an organization in a territory where competition is strong can step out and make such records month after month it must be acknowledged that it employs some unusually efficient merchandising methods.

And it is quite likely, too, that its methods, in part or whole, can be adopted by other aggressive automobile merchants and used to excellent advantage.

The Transport Motor Co. started hitting the ball with a little more vim less than a year ago, shortly after it decided to investigate the "whys" and the "where-fores" of its competitor's sales. Previous to that time it stood in third place, occasionally dropping fourth position as regards registration figures. As each month found it more difficult to secure business, and as competition became harder to meet, officials of the firm that something would have to be done.

The first step in their campaign came when Arnold Reading, general manager for the company, undertook

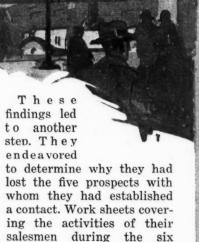
to investigate the concern's methods and conditions in its territory for "no good reason at all." He called in E. P. Olson, his sales manager. Together they reviewed their activities. The first thing they consulted was a set of modern merchandising methods

in the form of a retail procedure that had been placed at their disposal by their manufacturer. They examined this procedure and matched it against their own operations, and after a careful examination decided to give it a thorough tryout. Here is how they proceeded:

First they secured the registration list of all new cars registered in their county for the previous six weeks, and checked the names against their prospects on hand during that period. This made them see the light. Mr. Reading's statement sums up their findings in a very brief but pointed manner. He said: "It was with considerable humiliation that we learned that only five out of every 100 buyers of competitive cars during that period had been contacted by a Whippet or Willys-Knight salesman. The other 95 had blindly purchased some other make of car without even having the opportunity of hearing our story."

Which Led One of Them to Wager
of Registrations and Proper
Lost File Will Present a Pic
Possibilities Such as Will
body Back Into the Fight
New Understanding
It Is All

tion list was humiliating to Mr. Reading, you may rest assured that the picture he presented to his salesmen of the lack of follow-up and meaningless reports on live prospects was more than humiliating to the particular salesman



weeks were carefully

amined. They noted the

date and report on the last

call prior to the sale by a

competitor. If the picture

obtained from the registra-



in the Lost File Luke Hayes

That "an Inspection
Analyses of the
ture of Sales
Put EveryWith a
of What
About"

Arnold Reading, general manager of the Transport Motor Co., Spokane

upon whom they pinned the responsibility.

With the proper and authentic record of lost sales carefully analyzed, Mr. Reading and Mr. Olson accomplished more in a single sales meeting

At left: E. P. Olson, sales manager of Transport Motor Co. than they had accomplished through months of pressure. They were able to secure these results because they were able to apply the pressure directly on the spots that would produce results. The lesson was driven home to each salesman s o effectively that each understood fully the figures and their relation to efforts.

The records served to exert a new pressure on Mr. Reading and Mr. Olson. They realized for the first time that where they thought they were good -where they believed they had left nothing undone to contact every prospect-they were in reality not scratching the surface.

As Mr. Reading says: "We had closed a fairly high per-

Transport Motor Co. head-

quarters at Sprague and Madison Sts.,

Spokane

(Turn to page 38, please)

The Fable of the Limp Who Had One Trump Left

By Sherman Swift

LIMP named Louie who sold what was Known as a Better Grade of Used Car was about ready to Snuggle up to the Sheriff and slip off his Shoes.

He was so Far in the Rough that he was Out of the Game. He had got it where the Fleba gets the Dirtiest—in the Neck.

Old Lady Fortune had shown him the Agate Eye and sent her unmarried daughter to finish off the job.

Louie had one Trump left. But at First he didn't Sense it. That was his Weekly Trade Paper.

One morning, when Nobody nor his Brother nor his Old Man wanted the "Best Used Cars in the World at Giveaway Prices," he saw an article in this magazine. He was going to give it the Yawn. But he couldn't let it Lay. In an hour he had read all but the Biggest Words.

Afterwards he put the Postman down for a Christmas Card.

The Story hit him like a Mother-In-Law and he began to realize that Somebody, Somewhere, knew as much as he did.

Which was the First time in 36 years that he had taken off the Ear Muffs.

This Idea he read about was that No Used Cars were the best in the World. There was always another Peddler that had at least one Better One. The Story said that the man who Claimed to believe that advertising "Stupendous Bargain" was the way to get the Good Provider into the Store was as Wet as an Under-Arm Bag on the Fourth of July.

And the same when you Finally got 'em into the Store. No triple-tonguing of the Mouth Organ. Just good Honest Sales Methods.

If anybody would Believe such Super-Latives it would be one Thing and a Good One, the Story said, But what was the Profit of trying to Fool people when the Only One fooled was You.

The Idea seemed to be that even if you really had Paul Revere's Horsie, and it was Actually an eight-year-old, you shouldn't advertise it as such because Nobody would be the Only One who'd believe it. Just tell them that it was a Nice, Gentle Horse About nine years of age and you'd get the Pennies of the Providers, the Story in the Trade Magazine said.



When he saw the finished ad in the paper, well it was lucky the minister wasn't there

All of Which was just what Louie hadn't done. He used "Stupendous and Mommoth" until he could Spell 'em and Nobody had ever heard of such Bargains as he offered since P. T. Barnum folded his Napkin.

"So that's the Way, is it?" said Louie. "I'm Doubting Donald and it looks kinda Gooey, but any Wagon rather than Walk." Well, he was a Spa-nort. He'd mix up one more Recipe. If this didn't come to a Head he was ready to Pull the Plug.

So he went down to the local Gazette office and talked his Bridgework loose. He already owed 'em so much they spelled it OdoubleO, but finally to get Rid of him they took another Contract and he ran an Ad like the Trade Magazine told him.

It was the Same Old Pageful of Pica, but it had its Cut-out closed. Instead of a "Mammoth, Greatest Value" complex it talked ordinary Garden Stuff. Stupendous became "Excellent,"

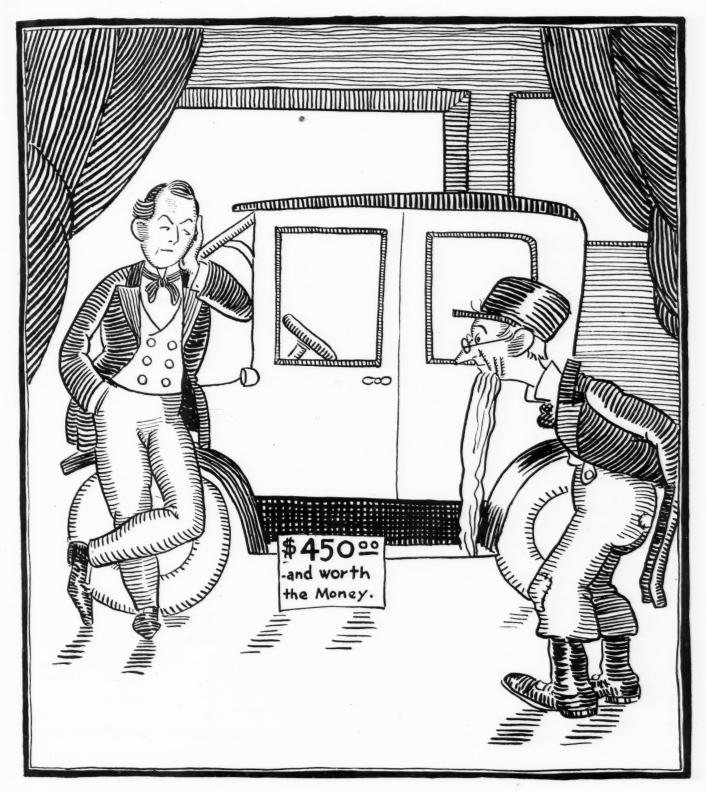
"Tremendous" appeared as "Unusual" and "Lowest Prices on Earth" was taken Bodily and thrown into the Hell-Box.

Before he Got Shut of the Job of making over the Ad, Louie had to go round the Corner to the Dutchman's more than once to keep his Courage up, and when he saw the Finished Ad in the Paper, well it was Lucky the Minister wasn't there.

The whole thing looked so Drab; not at all like the Blingers he had been running.

It went against the old Sales Instinct to describe that Late 1923 Ashcart as a "Satisfactory Buy for the Money," when cars not Half as good were usually referred to as "The Bargain of a Lifetime."

But there was Nothing to do but Whistle and see what happened. The first Prospect to put in an appearance was an old Iyiyi from Ypsilanti. This Harp-Cheater was so near Stone Blind he could only see to the Knees. He didn't recognize Louie and told him he seen his Ad in the Paper and was glad a new Mudguard Knocker had got hold of the Place. The former owner talked too Fancy, said the Old Edgar. Well, Louie, by holding back the Super-Latives until he was nearly Choked, succeeded in selling the Old Subscriber an equally Aged Chariot. So it was Two of a Kind and they started off Even. And yet it was Good-Bye to a



The next Looker was a Hungry Hiram from Hardscabble who still thought the latest style in hair combs was the Drag-Tail, it was so long since he'd peeked inside a Barber Shop

Good Buy, because the old Square-Wheeler was well worth the Money asked.

The next Looker was a Hungry Hiram from Hard-scabble. He still thought the latest style in hair combs was the Drag-Tail, it was so long since he'd peeked inside a Barber Shop. He had to get down on his Hands and Knees and Look Up at the Car so he wouldn't Step on his Spinach.

He Knew cars before Henry got the Idea, when the only Rubber Tire was sold by the Yard at the Blacksmith Shop. Louie's first impulse was to slip the Old

Chin into High and give him both Barrels. But he remembered the Story, Struck a Nonchalant Attitude and Hummed a few Bars from "Horses."

He let the Potatobugger sell himself. And he did. It was the first Sale anybody ever made for Louie

without asking a Commission.

And so it Went. Business got good and stayed so, with everybody Satisfied, including Louie and his Creditors.

MORAL—You Can't Fool Many of the People Much of the Time.

Breaking the Speed

INNING the world's speed record isn't an easy job. But since winning it I've come to the conclusion that it's a whole lot easier to do than to talk about. How'd you do it? is a question that's thrown at me from left and right until sometimes I feel I'd like to be Milt Gross' Mr. Feitelbaum and reply with a noncommital "Dunt esk!"

When Motor Age asked me to answer the same question for publication my first reaction was to consider the request the "wisp of hay that fractured the dromedary's spinal column," as Gene Tunney might say to Shakespearian students. On second thought I figured it was a good out, and that in one sitting at the wheel of a typewriter I could answer the question for the many thousands of Motor Age readers and anticipate other well-wishers by handing them a printed reply to the inevitable question or referring them for full particulars to this issue of Motor Age.

On third thought I decided to act on my second thought, so here goes.

Well, now that the job of getting the record for America is finished it all seems like a dream. (Where have I heard that line before?) But that's really how it seems. And that in spite of the fact that a few months ago it was more like a nightmare because of the trouble we met with.

We knew the White Triplex was fast; that it couldn't help being fast. Those three Liberty engines with their The Automobile World's Fastest
Record-Breaking Feat at
Interesting Facts and Ad
Than to

5-in. bore, 7-in. stroke and a total of 36 cylinders developing 1500 hp., practically made the car an "irresistible force."

Our first taste of trouble was in connection with the lack of a reverse gear on the car. Somewhere in the A.A.A. records written years ago a rule was laid down that every car in any competition must have a reverse gear. Well, the construction of our car made it impossible to comply with this requirement—almost. Because of being ruled out on that score we waited to see what Captain Malcolm Campbell could do with his Napier Special.

When we saw that his record was 206.956 miles an hour, we knew that we could do better. In fact, we had turned up an unofficial 253 miles an hour.

But how to put a reverse gear in was the problem. You know each of the three engines is directly connected to the rear axle by its own driveshaft. That is, there are three ring gears and three pinions. The car uses no clutch or transmission. It is obvious that to



Record

Driver Tells the Story of His Daytona Beach, Reveals Some mits That It's Easier to Do Talk About

By Ray Keech

(Holder of the World's Speed Record of 207.5526 m.p.h.)



Above: Ray Keech, holder of the world's speed record (207.5526 miles per hour), typing the story of the fastest automobile ride in history

At left: Reception to Ray Keech, world's speed monarch (at the head of the table), by editors and officials of the Chilton Class Journal Co., publishers of Motor Age

have used them would have required either a different final drive or the use of three of each item, either choice being quite impossible.

Finally we got the A.A.A interpretation of what would be a satisfactory reverse gear. It was agreed that, if the car could back up under its power, it would be approved and would be permitted to try for an official record.

This was taken care of. We finally succeeded in re-

BREAKING THE SPEED RECORD

versing the car under its own power at a maximum speed of 36 ft. a minute-quite a contrast to the 253 miles an hour which it had made going ahead—but fast enough to satisfy the A.A.A. regulations. Here's how we worked out the problem. On one of the engines a worm gear was mounted. Above this worm gear was a worm that could be put in mesh or raised out of mesh by a lever operated from the driver's seat. In this way, one engine was turned backward through this reduction of 500 to 1. Naturally the other two engines, being permanently geared to the rear axle, had to back up also. But the car would reverse under its own power and we were ready to try for the record.

The beach, however, was not in the best of shape. In fact, Daytona Beach is at its best only during January and February. We had been delayed so that it was now April and conditions were far from what I should have liked to have seen them.

Trial runs were made repeatedly. In fact a total distance of 450 miles was made in trials runs only. This distance was covered at an average of 195 miles an hour.

Some days the beach got like a plowed field. Of course nothing could be done under such conditions.

On several different occasions when trying out the car I went through space for as much as 52 ft. Smaller jumps were common. The exact length of these jumps was determined by measuring the marks left in the sand. There was one spot in the beach that threw me 8 ft. sideways on each trip.

Possibly I'd better mention how it feels to "take off" in an automobile at a speed in excess of 200 miles an hour. Well, you don't feel the "take off"-you just feel the landing. The only way you know that you are leaving the ground is that the steering gets very light, then comes the bump and you are on the ground again. Of course there is always the chance that when the steering gets light the wheel may be unconsciously turned a little. This would be likely to result in an upset when the car again struck the ground. The steering gear has a 24 to 1 reduction with no play at the steering wheel. The slightest movement at high speed would very likely set up a very dangerous swerving motion.

The car was started by having an automobile get behind and push. The ignition was turned on at once and within the first few feet the engines took hold. Immediately then the Triplex would leap forward from the pushing car. Pushing was not so difficult. This was partly due to the use of pinions larger than the ring gears in the rear axle. To be exact the pinions had 27 teeth, while the ring gears had 25 teeth. One

turn of the engines advanced the car 11 ft. It might be interesting to let you know that I averaged one-half mile for each gallon of gasoline. Isn't that a nice little touring car?

While given several miles to get a flying start for the line I actually used much less than that. In fact in the final run I used but a mile and a half to get up to speed. This was made possible by a combination of the weight of the car, which was 8000 lb., and the enormous power.

Stopping was probably more dangerous than anything The sudden application of the brakes would have been disastrous. My method was to slowly close the throttles and let the compression of the engines slow the car down. It was only when the car was nearly stopped that I would apply the brakes to hold it.

As I mentioned before, much time had been lost and the beach was getting worse each day. Finally a hard northeast storm leveled off the course and I decided to try for the record.

My first run was against the wind. I made the mile at a speed of 204 miles an hour. That pleased me well for I anticipated much better speed with the wind. But here I was greatly disappointed, for on the return trip my speed was not recorded. Possibly my car jumped the tape. According to my tachometer I was doing 214 miles an hour, for an average of 209. However, that could not be counted as it was not officially recorded. Before I could repeat the run with the wind the 30 minutes allowed between runs both ways had elapsed and I had to repeat the run against the wind.

This was unfortunate, for this time my official speed was 201 miles an hour. When I came back with the wind I made 213 miles an hour. Of course I have not carried these figures out to the fourth decimal place, but to be exact the final average was 207.5526 miles an hour.

But my pleasure in seeing the record come to America was short-lived, for it was only a few days later that Frank Lockhart was killed in attempting to better the record I had established. Frank was a wonderful driver and an unusual mechanic-yes, one might properly call him an experimental engineer.

So far as is possible it is my present intention to take up Frank's work where he left off. I have already taken over his 91-in. Miller for track work and have taken over some of his contracts. All of these things have developed so fast that it is really quite a problem to get time to take care of everything. I am leaving now for Indianapolis to arrange details for the future and to prepare for my entrance in the 500-mile race there on May 30.

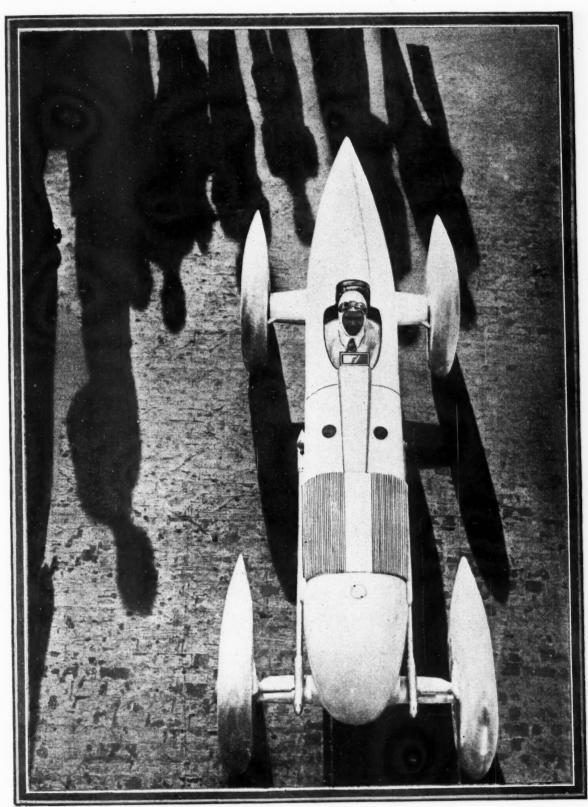
Transcontinental Rapid Transit Highway Survey Asked

way was proposed in a bill introduced this week in the sites throughout the route for business enterprises, House by Congressman Henry R. Rathbone, of Illi- which over a period of a year would compensate for

The bill proposes that funds for the highway will be proposed the creation of the transcontinental highway, would also be of immense military value."

REATION of a presidential commission to survey with the right-of-way 500 ft. wide. The duPont plan If or a transcontinental, arterial rapid transit high-stipulated that the Government would then sublease the construction of the highway.

In discussing his proposed plan, Congressman Rathraised through assessments levied against adjacent bone declared that "the construction of such a translands which will materially increase in value as the continental highway, as this bill contemplates, would result of the new highway. A similar measure was not only make automobiles much more expeditious, introduced last year by Senator Coleman duPont, who but would prevent many accidents. Such a highway



Sunshine and Shadow

Frank Lockhart and the special racing car in which he took his last ride

Slip the Covers

on Service Jobs and You

Won't Have to

Cover Up

By C. Edward Packer

ACK was delighted and for a good reason. In the last week three new cars had been sold with no old cars traded in. Straight, clean deals. And when Mack was pleased the whole place knew it.

Now Mack was not much on conferences and the like but he could not pass up this chance to get the service boys together and talk with them. There had been a matter on his mind for some time that he had wanted to take up with them.

"You know," he began, when the last straggler had settled down, after tipping over the wastebasket, "something last week made me feel pretty good. We had three nice sales. Three cars sold and all clean deals. That doesn't happen often. In fact it is quite unusual in the sales department to get these clean deals. That is where you boys have it over us."

Mack let that sink in, but the silence was broken by Bill with, "How come?"

"I thought that might go over your head but this is what I mean. There is nothing that pleases the boss more than a clean deal. Likewise there is nothing that pleases the customer more than a clean deal. It is an old saw, but true, that the customer is the boss. To make profit in the service department, make each job a clean deal—in other words, use those car protectors that

I bought for you some time ago. Don't save them. Save the cars instead. The covers will wash."

"But," Bill interrupted, "some repair jobs ain't so dirty, and in other cases cars are so dirty that covering

them up isn't important."

"That is just what I expected," said Mack. "From now on use your covers on *every* car. Possibly the cars don't need the covers, but our shop needs the extra business that results from being careful.

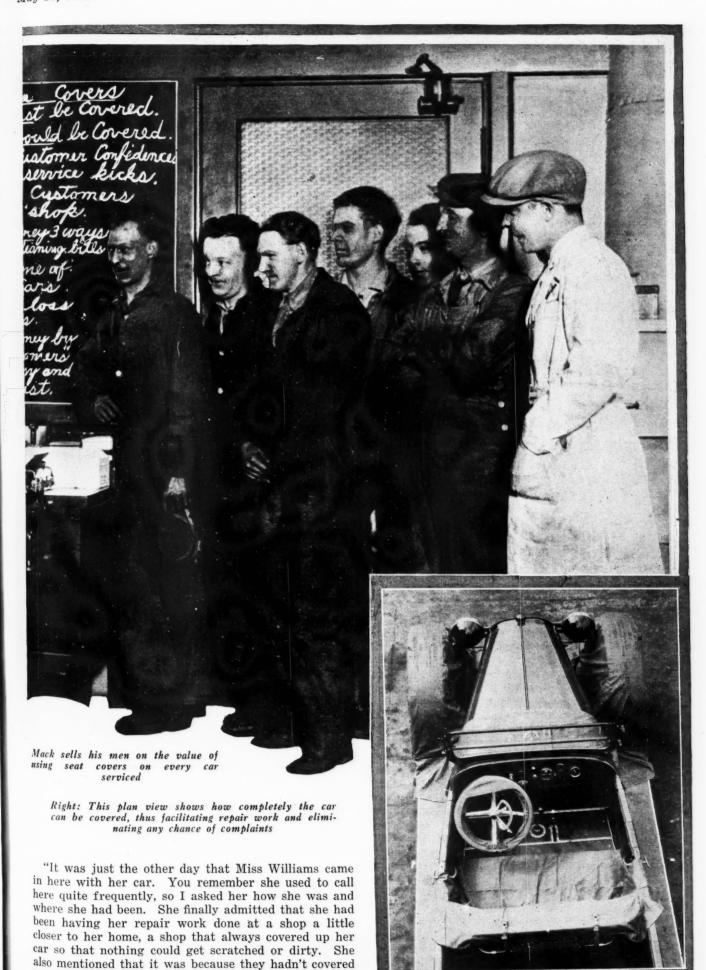
"All cars may look pretty much alike to you. A little scratch here and there, some dirt on the floors, a grease spot on the upholstery, plenty of dust. Now the funny

L. By sorring to Charing to Charing to Greatomer.

Covers make many in the Angle to work of Safe to work of Sa

thing is that even with such conditions practically every owner knows just what is scratched, where the grease spot is, and how much dust is on the car—and woe to the shop that adds to the damage.

"There are a lot of mighty good reasons for completely protecting the fenders, cowl, doors and upholstering of every car that enters our place. Just to let these thoughts soak in, I'm going to write them down for you here on the blackboard where you can look at them from time to time. You will begin to see pretty quickly that it is going to make life in the shop more pleasant, your work easier and results more profitable when you use these covers.



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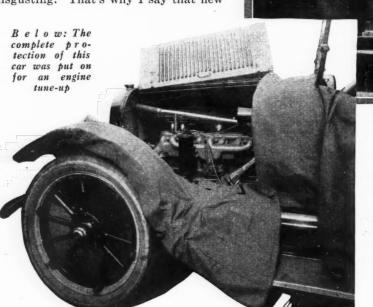
ant, you

her car the last time that she decided to come back here.

SLIP THE COVERS ON SERVICE JOBS

"You may think this is an unusual case. It is, so far as anyone admitting the truth is concerned, but for every one customer who *will* tell you why he does or does not come to your shop, there are 100 who *will not* tell you. We are out to get the extra 100 by protecting *every* car.

"Now with regard to what I put on the blackboard, you all know that new cars must be protected. The slightest scratch on the finish or dirty smudge on the upholstering is as conspicuous as a fly in a bowl of milk—and just as disgusting. That's why I say that new



cars must be protected.

"With regard to the second item, old cars should be protected because no matter how old a car gets, to the owner it is his car and he doesn't want it smeared up. Once in awhile you'll meet a person who may not care, but he's the exception. Protect these old cars and keep them clean. I feel that there is more advantage in covering an old car than there is in covering a new one, because you flatter the owner when you do that, and while nobody will admit that he likes flattery, it's only human nature to be pleased when somebody's particularly careful with something you own.

"And with regard to the third item on our blackboard. Covers do build customer confidence. The minute you start to put covers on, the customer says to himself, 'Here is a careful man.' He immediately puts you down as careful and as a consequence doesn't worry as to whether you put back the cotter keys or not—he knows you did the job right.

"You'll all admit the truth of item No. 4—covers prevent service kicks. We have had entirely too many service kicks lately. Most of them don't amount to much, at least so far as the grounds for the kick are concerned, but they are serious, as they cost us real business. We all know that you *know* your stuff and do your stuff, mechanically, but that is not enough. The car must be mechanically right, of course. But, furthermore, the customer is justified in expecting it to come



Complete protection of seats, doors, cowl and fenders is assured by the covers here shown

back to him at least as clean as when he brought it to you.

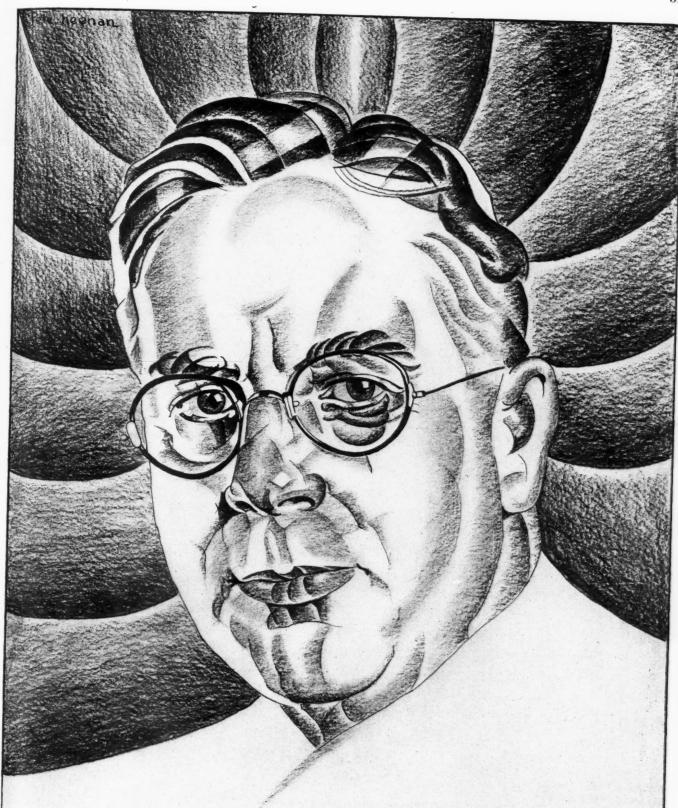
"With regard to No. 5 we all know that the things we have previously mentioned are going to make boosters out of customers. It seems funny, but it's true that there are not many shops that stand out in the customer's mind as clean, pleasant places to visit. Most customers are reluctant to go to the service station for one reason or another. Any special service that we can render, such as covering cars, is going to result in a lot of boosting for us.

"Now, item No. 6 is very important. We know that covers save us money. In the first place they prevent dry-cleaning bills, which we have had to stand in the past. It was only five weeks ago, you remember, when Mr. Johnson came in here so mad that he could have chewed the door-knobs off. He drove his car home and let his wife take it. His wife was dressed up to go to a tea. But she didn't go. Yes, she got as far as the house, but when she saw that her white gloves were ruined she didn't go in, and when she realized that the back of her dress was as dirty as her gloves, you'll know why.

"Of course, Mr. Johnson got blessed for what happened, and believe me, he passed it on to us with interest. The net result is that we paid a stiff dry-cleaning bill, probably lost Mr. Johnson for good and the Lord only knows how many more customers we'll lose as the result of that.

"Every once in awhile I see you fellows have to sponge a grease spot off the upholstering before the customer gets here. That takes 10 times as long as putting the covers on in the first place, and there's always the danger that the spot can't be removed. When we know how much it costs to get customers, certainly there's no use taking a chance on losing them when the simple expedient of covering the cars could prevent the loss.

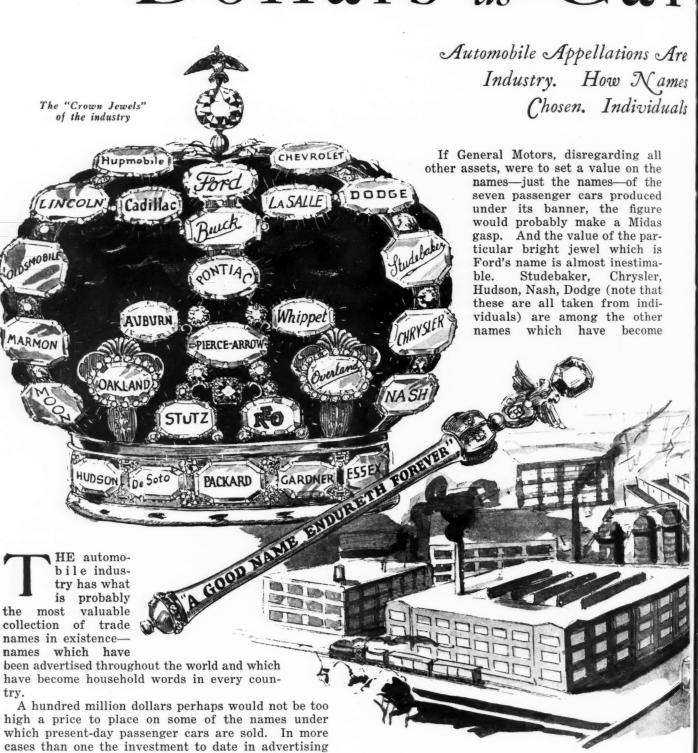
(Turn to page 38, please)



A MOTOR AGE IMPRESSION = F. B. SEARS

President = Elcar Motor Co.

What's in a Name? No Dollars as Car N



as names.

worth immense sums in the automotive world simply

Shakespeare may have been right when he said that a rose by any other name would smell as sweet, but

to establish and perpetuate the name closely approxi-

mates that amount. There are at present several companies in the industry each of which spends close to

\$10,000,000 a year to keep the name of its car flaring

where even he who runs may read.

Millions of Names Go

Robert L. Cusick

the "Crown Jewels" of the Now in Use Came to Be Furnished Most

> it can't be said that an automobile would "sell as sweet" by any other name than the one under which it was nursed to success.

> A trade name once properly established becomes the car manufacturer's biggest asset from a merchandising point of view. As long as the name is made to stand for honest value it is 90 per cent of his stock in trade, for cars are bought largely by the reputation of the name and the more famous and reliable the name the greater the sales.

> It is easy to imagine what would happen if the name of any successful car were suddenly changed. That car would cease to exist as far as the public was concerned. Under its new name it would be regarded by the public as a new car, and even if it remained identical in mechanical design and quality, millions of dollars would have to be spent to build the second name

cially do they signify, if anything? These are questions which develop some interesting facts in the answering.

The great majority of names come from individuals, some of them famous

historical figures, others dead or otherwise separated from the industry within recent years, and still others -most in fact-active and prominent today in the companies that use their names.

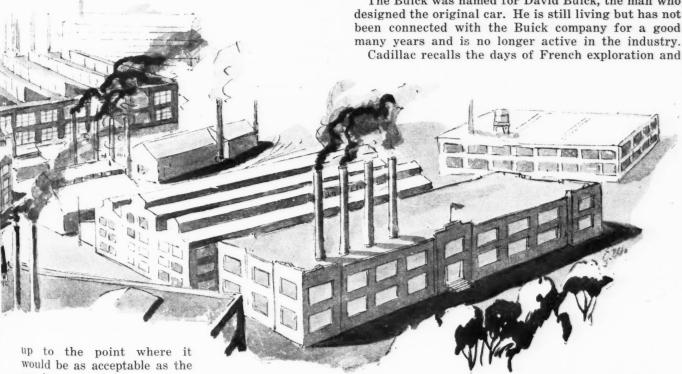
The prevalence of this custom of naming cars after individuals is indicated by the fact that 35, or 76 per cent, of the 46 American makes now in active production are so named. Two of the individuals were French explorers, one was an Indian chief, one was a famous president of the United States and another ran a department store in Detroit.

Among present-day automobiles there is one that was named after a race horse; one takes its appellation from a breed of dogs; one is named for the town in which it is built, and in another case a bird was called upon to supply the name.

But let's go down the list in alphabetical order.

The town of Auburn, Ind., furnished the name for the Auburn automobile. That is where it is built. When the owners of the old Eckhart Carriage Co. decided to go into automobile manufacturing after having been established in Auburn for a good many years, they conceived the idea of naming the car for the town, probably with the thought in mind, as the company says, "of carrying the name of the town of Auburn to all parts of the country and to the world."

The Buick was named for David Buick, the man who designed the original car. He is still living but has not been connected with the Buick company for a good many years and is no longer active in the industry.



one it superseded.

Hence the value of a good, established, going name. Where did the present crop of passenger car names come from? How did they originate? What especonquest in North America, when dashing cavaliers surrounded by adventurous followers pushed into the great silent fastness of the lurking Indian in search of

WHAT'S IN A NAME? MILLIONS

new domains "for King and country." Antoine de la Mothe Cadillac was such a one, and in the course of his travels he reached the river giving from Lake St. Claire into Lake Erie and on its shore established a trading post that is now the city of Detroit. A fitting name to be inscribed on a motor car that is built in Detroit.

F. C. Chandler organized the Chandler-Cleveland Motors Corp. to manufacture the car which bears his name.

He is still president of the company.

The Chevrolet was brought out by William C. Durant and got its name from Louis Chevrolet, who was a noted racing driver of that period. He has no connection with the present Chevrolet company but, in partnership with his brother, is a manufacturer of special parts used for converting Fords and Chevrolets into racing cars.

The Chrysler, of course, is named after Walter P. Chrysler, organizer and president of the Chrysler Corp.

The Cunningham, like several other cars, bears a name that came down from carriage-building days. James Cunningham founded a carriage company in 1838. He died in 1886 but the business continued as James Cunningham, Son & Co. When the company brought out an automobile it was naturally called the Cunningham to take advantage of the company's long reputation.

The Davis derives its name from the founder of the company which builds it, George W. Davis. Mr. Davis served as president of the company until its recent ac-

quisition by the Automotive Corp. of America.

Diana harks back to ancient times, this being the name of the Roman goddess who was worshipped as the deity of the moon and light generally, and who also was supposed to preside over wood, plain and water, the chase and war. As a moon goddess, her name is singularly appropriate for a Moon product, the car to which her name is applied being manufactured by the Moon Motor Car Co.

Dodge was adopted as a car name when John and Horace Dodge went into business as manufacturers to

produce a car of their own.

The du Pont car was named in honor of the founder of du Pont Motors, Inc., E. Paul du Pont. He is still

president of the company.

William C. Durant twice has given his name to a car. The first Durant was a four and was discontinued several years ago. The present Durant is a six and made its appearance at the last New York show.

Elcar as a name was coined to apply to a car built in Elkhart, Ind. The first two letters in Elkhart were combined with "car" to give the appellation. The Elcar Motor Co. was formerly the Elkhart Carriage & Motor Car Co. and the first cars it built were known as Pratt-Elkharts.

The Erskine is named for A. R. Erskine, president of the Studebaker Corp. of America, the car being a Studebaker product.

The name of the Essex was chosen, the Hudson Motor Car Co. says, because "it is short, easily remembered and has a particular appeal in the export world where a large proportion of buyers are in English-speaking communities. It is, of course, a common British name."

From the swift bird of prey used in the ancient sport of falconry comes the name of the Falcon-Knight. The Knight part of this name comes from the fact that a Knight sleeve valve type engine is used in the car, but there is a natural relationship between the two words,

Knight and Falcon, as the falconers of old usually belonged to the nobility and ranked as knights.

Little can be added to what is already known by everybody about the Ford name. It was supplied by Henry Ford himself and has been a byword in the industry for 25 years. It is doubtless the best known motor car name in the world.

The Franklin derives its name from H. H. Franklin, founder and president of the H. H. Franklin Mfg. Co.

Gardner is a family name. The car is built by the Gardner Motor Co., Inc., of which R. E. Gardner, Jr., is president and F. W. Gardner, vice-president. The company is an outgrowth of a buggy business conducted for a number of years under the name of the Bonner Buggy Co.

The Hudson was so called as a compliment to J. L. Hudson, who was one of the original incorporators of the Hudson Motor Car Co. Mr. Hudson made his original fortune as the proprietor of a department store in

Detroit. He is now dead.

The Hupmobile and the Hupp Motor Car Co. were named for R. C. Hupp, who helped to form the company in 1908, in company with J. Walter Drake, J. R. Drake and John E. Baker. Mr. Hupp left the company in 1910 and was active for some years after in the promotion of various automotive enterprises, but has had no connection with the industry now for some time.

The next two cars on the list likewise are named for the men who put them on the market—the Jordan for Edward S. Jordan, president of the Jordan Motor Car Co., Inc., and the Kissel for the four Kissel brothers of

the Kissel Motor Car Co.

The La Salle, like its companion car, the Cadillac, is named after a Frenchman who made history as an early North American explorer—Rene Robert Cavelier Sieur de La Salle. Among the exploits of this pioneer is the discovery of the Ohio River, which he mistook for a short cut to China under the impression that it emptied into the Pacific. He also discovered the Illinois River and was the first white man to follow the Mississippi from its upper course to the Gulf of Mexico.

The Lincoln appropriates the name of the famous sixteenth President of the United States, Abraham Lincoln

The Locomobile bears a name that was coined in the early days of the industry to suggest the character of the vehicle to which it was applied. The name conveys such a clear meaning that it has found a place in the English language and is recognized by the dictionaries as a generic term.

The McFarlan is another car with a name which dates back to the horse-and-carriage days. The McFarlan Carriage Co. was founded in 1856 by J. B. McFarlan. When the automobile began to supersede the horse-drawn carriage the company abandoned the manufacture of the latter for the former and was reorganized as the McFarlan Motor Corp. J. B. McFarlan is dead but his sons and grandson are still active in the business.

Marmon is a family name which was applied to a well-known line of milling machinery long before anybody had built a successful automobile. Daniel W. Marmon and Ellis Nordyke organized the Nordyke & Marmon Co. in 1851 and the products were sold under the name "Marmon." In 1902, when the manufacture of automobiles was begun, the name was extended to the new product. In 1926 the firm name of Nordyke & Marmon was changed to the Marmon Motor Car Co. Walter

(Turn to page 36, please)

The Latest in Accessories

Spare Tire Side Mounting

SIDE tire mount for carrying A spare tire on the front fender is being made by the Bellevue Mfg. Co., Bellevue, Ohio. This carrier is constructed to pivot or swing when door is opened, and does not interfere with

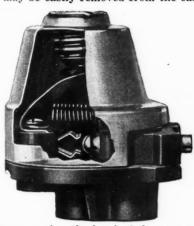




door space. Tires may be carried on either right or left side, or both. One cut shows the carrier itself while the other shows its position and location on the car.

Improved Flashlight

DECIDED improvement in flash-A light construction is seen in Ray-0-Vac Flashlights made by the French Battery Co., of Madison, Wis. Probably the most outstanding development is the new type of switch used in this light. All working parts of this switch are contained in the closed conical box. The switch box is not permanently connected to the flashlight case in any way. It may be easily removed from the case



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by unscrewing the head of the case and pulling it out. The advantage of this switch construction is quite apparent. The complete separation of the switch the case, makes it impossible for battery chemical which may ooze from a discharge flashlight battery to corrode ly to the manufacturer.

the switch. The contact point on the switch may be polished, or a substitute switch inserted at will. On rotating the Bakelite thumb-piece to the right the push pin which completes the circuit to the battery is exposed for manipulation. This position is shown in the illustration herewith. A light off-and-on pressure on this pin gives a



flashing light. A strong pressure gives a permanent light. By rotating the thumb-piece to the left, the push pin is snapped back into the switch box by the spring, visible through the cut-away section, as shown.

This new flashlight is made in four types-tubular heads, miner heads, spotlight and searchlight heads. The flashlight barrels are made in two finishes, black and nickel. Octagon heads prevent the light from rolling when laid on level surface. The head parts cannot work loose for hood, reflector, lens and ring are combined in a single

Spark Plug Wrench

NEW spark plug wrench is being A put on the market by J. H. Faw Co., 27 Warren St., New York City. This is known as their 29 by 29 wrench and is made particularly for Nash spark plugs. The walls of this wrench, while strong, are made very thin and



fit all % in. bushing shells, but, as previously mentioned, are designed particularly for Nash service. A complete line of spark plug wrenches is made by this company and further details may be had on request.

Ignition Insulators

RUBBER hoods that fit over the distributor, coil and spark plugs of automobile ignition systems, are now being put on the market by the Sherparts from the battery compartment of man Motor Products Co. of New York City. Further details regarding this accessory may be had by writing direct-

Folding Luggage Rack

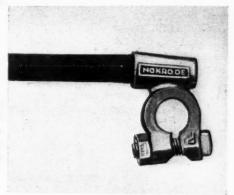
FOLDING rack for trunk and luggage is now available for the 1928 Ford and Chevrolet. This accessory is similar to the equipment which is popular on the larger cars. It is well designed and built and is held securely



in either open or folded position by means of a double locking device. The dimensions of the deck are 131/2 in. by 34 in., and it is furnished with or without the trunk. This luggage rack is made by the Bellevue Mfg. Co., Bellevue, Ohio.

Non-Corroding Battery Terminal Clamps

OKRODE Battery Terminal Clamps are manufactured of a special non-corrosive alloy and by a process whereby the cable and the clamp are joined without sweating. The



union is so complete that the likelihood of the cable working loose from the clamp is eliminated. It is said that these terminals will not stretch out of shape and so become loose on the battery posts. These new terminals are a product of Koscherak Bottlers Equipment Co., Inc., 232 E. Forty-second St., New York.

WHAT'S IN A NAME? MILLIONS

-(Continued from page 34)-

Marmon, chairman of the board, and Howard Marmon, vice-president, are sons of Daniel Marmon.

Moon also is a family name, and one which was known commercially before automobiles were produced. The Moon Brothers Carriage Co. of St. Louis was a well-known institution in its day. Joseph W. Moon was president. In 1893 the company was reorganized as the Joseph W. Moon Buggy Co. In 1907 automobiles were added to the line and the name again changed to the Moon Motor Car Co. Joseph W. Moon continued as president until his death in 1919.

The Nash gets its name from Charles W. Nash, president of the Nash Motors Co.

The Oakland name is adopted from Oakland County, Michigan, wherein is located the town of Pontiac, in which the car is built.

The Oldsmobile designation was formed from the name of R. E. Olds, pioneer automobile manufacturer who was instrumental in establishing the company. Later on, when Mr. Olds withdrew from the old company and launched a new one he originated another car name by forming his initials, R. E. O., into the word "Reo." He is still chairman of the board of the Reo Motor Car Co.

The Whippet name was borrowed by Willys-Overland from the special breed of racing dog developed for sporting purposes in the colliery regions of England.

The Packard was given the family name of the two brothers who organized the company, W. D. and J. W. Packard. The latter's death occurred recently. W. D. died a few years ago.

The Peerless name was arbitrarily chosen because of its synonymy with high quality.

Graham-Paige is a combination of two names which have been prominent in the industry for many years. It was adopted a few months ago following the acquisition of the former Paige-Detroit Motor Car Co. by the three Graham brothers. Wishing to have their name identified with the product, and also desiring to take advantage of the reputation of the Paige name, the new owners combined the two. The Paige part of the name comes from Fred O. Paige, who was elected president of the Paige-Detroit Motor Car Co. when it was organized in 1909.

The origin of the name Pierce-Arrow is explained by Edward R. Alexander, trademark attorney of the Pierce-Arrow Motor Car Co., as follows: "The name Pierce-Arrow originated as a result of the prominence gained by the Great Arrow cars produced by The Geo. N. Pierce Co. in the early days of the automobile industry. The first automobiles trademarked by the Geo. N. Pierce Co. with 'Arrow' were called the 'Arrow' cars, then came the 'Great Arrow' series. The word 'Pierce' was substituted later for the word 'Great,' giving the present name. When the company was reorganized in 1909 its name was changed to the Pierce-Arrow Motor Car Co."

The Pontiac car delves into Indian history for its name, which is that of a famous Ottawa chief, the same for whom the town of Pontiac, where the car is built

by the Oakland Motor Car Company, was named. Concerning the origin of the name Roamer, A. C. Barley, president of Roamers, Inc., says: "About 15 years ago when I was head of a corporation manufacturing passenger cars we had an inquiry from a large New York distributor of a foreign-built car, asking us to design and build for him, for the New York market, a car in which he might have some hand in designing.

"After a lot of negotiating we produced the car he wanted, but couldn't decide on the proper name for it. The car was among the first low-hung cars of American manufacture and had a racy and sporty appearance. About this time the race horse, Roamer, was performing some very wonderful feats on the track and this name for the car was therefore suggested and decided upon as being particularly appropriate for the car.

"The name, I believe, was first suggested by a chauffeur in the employ of the proprietor of the New York firm."

F. B. Stearns gave his name to the Stearns-Knight when the company was organized in 1896. Mr. Stearns, who has had no connection with the company for some time, has recently been engaged in the design of a Diesel type engine.

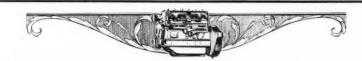
Studebaker was a well-known name in the carriage field before the automotive industry was established, and is the family name of the founders of the company. The first car handled by the Studebaker company was the old E.M.F., which was built in Detroit by the Everitt-Metzger-Flanders organization. Studebaker eventually withdrew from the arrangement under which it operated as the distributing agency for the car, but later bought the company and changed the name to Studebaker.

The Stutz was named for Harry C. Stutz, who built the first car to participate in the 1911 Indianapolis race. He was so successful that he decided to enter the passenger car manufacturing business. He later left the original company and established another for the manufacture of a car which was called the H. C. S., his initials. This company has been out of business for several years and Mr. Stutz is now living in Florida.

The list is completed with the Velie and the Willys-Knight, both named after the men who introduced them. W. L. Velie is still president of the Velie Motors Corp. and John N. Willys of course still presides over the destinies of the Willys-Overland Co.

Trade names to reckon with, these. Names which represent an industry that has grown from nothing to more than two billion dollars of invested capital in 30 years. Small boys know most of the names better than the names of the players in the World Series. The biggest electric sign on Broadway spells "Dodge" and one can see Ford's name on ships at sea.

We even find some of the names in the old English classics. For instance, this line from Keats—"Sick and wan the brothers' faces in the Ford are seen." And Burns wrote—"The unmannered dust that might soil his Star." They were the first automobile press agents—unconsciously.



Useful Shop Equipment

Valve Spring Tester

ESTING the strength of valve springs, either in the engine or when removed, is now made possible by a new device put on the market by Stevens Walden-Worcester, Inc., Worcester, Mass.

As will be seen, this equipment consists of a base with a rack at right angles to it. On this rack is a sliding member with gage. This sliding member is moved up or down by moving



the handle, which is equipped with a pinion. The action, in other words, is very much like the familiar bottle capper. The spring is put in place on the platform and the movable member put in contact with it. As pressure is put on the handle, the resistance that the spring offers is recorded on the gage. By means of a stop which can be clamped in any position on the vertical rack, one is assured of testing all springs at exactly the same length. This piece of equipment is known as the No. T-370, weighs 8 lb. and sells for \$15.

Another item for testing valve springs without removing them from the car is the No. T-380 which works in



conjunction with the Stevens Valve Lifter. Here to get the correct max-

imum spring pressure reading, the it is ready for operation. This is a tester is applied to the closed valve and the spring is then compressed to the same amount as the wide open valve would cause it to be. A clamp is supplied with this tester also so that all springs will be checked at the same length. The gages read in pounds of spring pressure. The price of the T-380, which must be used in connection with the Stevens valve lifter, is \$8.50.

Pressure Lubricator

HIS high pressure lubricator consists of a tank made of 10 gage metal with 3/16 in. head welded, and has a capacity of 100 lb. With the wheels and handle it is easy to move this lubricator from place to place. A unique feature is the continuous flow meter which is so constructed that it may be set to measure pounds, pints, meters or Imperial gallons, with but a slight adjustment of a small screw at the bottom. The discharge dial measures up to 8 and repeats and cannot



be moved forward or backward except by operation. A small register records the total amounts of lubricant that has passed through this device up to 100,-000 lb. or pints. This device will handle any grease that will set or flow together. At the bottom of the tank is a large filling hole, as shown. To fill the tank it is laid on its side, the air valve is opened and this plug removed. The tank should be filled with grease or other lubricant to within 3 or 3½ in. of the bottom of the plug. Then, 75 to 100 lb. of air is turned on the tank and ting the use of hot water when desired.

product of The Hutchins Co., Inc., 410 Phoenix Bldg., Minneapolis, Minn.

Ignition Service Set

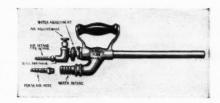
HIS set consists of 13 units, packed in a small, sturdy steel case which is 11 in. long and 6 in. wide, and weighs but 6 lb. It is ideal for any automotive work on which the mechanic must work in very close quarters. This set is known as No. 13H. The



price, complete in steel case, is \$8.70. It consists of the following tools: 110S Offset handle, 500S Brace handle, 807 Screw driver handle, T-4S Sliding bar, Six double hexagon sockets from 5/16 in. to % in. and No. 801 Screw driver socket. It is made by the Blackhawk Mfg. Co., Milwaukee, Wis.

Car Washer

'HE "Amco" is a new car washer being offered to the trade by the American Injector Co. of Detroit, Mich. It is a low-priced washer making use of the ordinary air compressor and local water supply. It operates on the ejector principle, and when used with only



a small amount of air produces a concentrated driving stream that cuts the mud from inaccessible places from quite a distance. With increased air flow the water is broken into fine particles which flushes off the dirt. This car washer is made of bronze, carefully machined. It has a wooden handle which assures a cool grip, thus permit-

FOUND THEMSELVES IN THE LOST FILE

-(Continued from page 21)-

centage of the prospects we met, but we did not come anywhere near meeting enough of them."

No need to say they immediately set out to correct that condition.

Mr. Olson, who won first place in the Willys Derby, the national sale contest held three years ago by Willys-Overland, got right back into trim. More salesmen were employed and trained. Work sheets were given a new importance; the men were so routed that every step counted and that no portion of the territory was overlooked. The report sheets that each salesman turned in were carefully scrutinized and steps were immediately taken to correct any mistakes that were detected. Every salesman was given a list of 10 telephone calls to make each day on owners of old calls. An average of 200 telephone calls per day was made in this manner.

The effect of this closely supervised and directed effort was felt immediately. New-car deliveries increased immediately, and so did the fighting spirit of the salesmen. It made them work a little harder, with the result that was noted above. As a result the lost file was not only maintained in the proper manner but it was studied carefully.

The first month that the results of their study and the subsequent remedies had a chance to prove themselves they took second place in registrations. The second month they took second place again but by a more comfortable margin. The third month they repeated. From this time on they were always in second place and fighting strongly for first.

Mr. Reading concludes with this statement: "We do not care to make broad statements regarding the activities of other automobile merchants, but we will wager that a similar inspection of registrations and proper analyses of the lost file will present a picture of sales possibilities such as will put everybody back into the fight with a new understanding of what it is all about."

Slip the Covers on Service Jobs

(Continued from page 30)

"On item No. 7, just take my word for it that covers do make money. You know right well from what I have just said that customers will go a long way to patronize the clean shop, and our cleanliness must not stop with having the floor cleaned and the windows washed regularly. The only way to have a shop that's 100 per cent clean is to keep all cars well covered. Just doing that consistently is going to result in our getting a lot of new customers and in holding our old ones.

"Another way covers make real money for us is by speeding up our work. You know that I've been reasonable in my demands on you. I never 'ride' you or try to have you rush a job. But you all know that you can't work fast when you're worrying about where you'll lay a tool down, or worrying for fear you'll touch the upholstering. As I said before, keep those cars covered and you can work freely and comfortably. You'll be happier and you'll do a lot more work in a day and, believe me, I don't lose sight of that."

Mack had been having his own way in all this con-

versation. Bill busted in again with a question. "That's all right about keeping these cars clean, but take the Williams' case—you don't think Mr. Williams is as fussy as Miss Williams about this stuff, do you?"

"You're a darn good mechanic, Bill, and a good shop foreman, and I like you because you're not afraid to get in the grease," Mack answered, "but at the same time you don't seem to get the idea that the oil and grease of an automobile repair shop are disgusting to a lot of people. They're not interested in machinery, they're interested in clean, smooth results.

"Now, Mr. Williams is just like a lot of other men. He does like his car clean, and how do I know? Well, Miss Williams told me, when she said she would go a long way to patronize clean shops—and why? Mr. Williams insists on it."

"Well, old Williams is a good scout and if he insists on a spotless car I guess every man does," admitted Bill.

And now all cars get the same protection in Mack's shop and all is well.

Massachusetts Motorists Paid \$14,211,337 in Premiums in 1927

PREMIUMS paid by motorists of Massachusetts under the Compulsory Insurance Law during 1927, totaled \$14,211,337, according to figures compiled by the Massachusetts Automobile Rating & Inspection Bureau. Claims paid amounted to \$7,474,396, but the insurance officials state that these latter figures do not mean much because the complete returns will not be in for some months since many cases remain unsettled.

The figures available to date seem to explode the claim that only about 30 per cent of the owners carried insurance. The 1927 premiums compared with the 1926 figures show that between one-half to two-thirds of the owners must have carried liability coverage in the Bay State.

According to the insurance officials the new law has cost the companies a lot of money. They claim the average ratio loss indicated by the figure will be as high as 62 per cent. Insurance Commissioner Wesley E. Monk states frankly that some of the companies have not played fair and changes have had to be brought about.

One of the most irritating to the Insurance Commissioner was that of learning how the owner of a fleet of trucks found that suddenly all his policies had been cancelled. Evidence before the Board of Appeal showed that the insurance company had made excessive charges for extra-territorial coverage to balance the low rate for liability under the compulsory manual. The board forced the company to reinstate the policies.

The Board of Appeal had 156 complaints last year. Of these 36 cancellations were deemed unreasonable and were ordered reinstated. There were 28 cancellations allowed. These figures show that the argument advanced before the law went into effect, that cancellations would remove hundreds of drunken drivers from the roads, is not borne out.

READERS' CLEARING HOUSE

Questions Answered By C. Edward Packer

Speeding Up the Model T

I am a reader of MOTOR AGE and I would like to know how much I could increase the speed of a Model T Ford engine with a highspeed camshaft .- C. B. Jacobson, Mobridge, S. D.

HERE are so many things to consider in this that it is impossible for us to say offhand just what could be accomplished by merely adding a high-speed camshaft. In connection with this it would be desirable to do many other things to the engine in order to obtain the maximum result. In order that you may have full information on this subject, we are sending you by separate letter a list of manufacturers of racing car parts. Many of these parts are suitable for use on a Ford car and in connection with their use comments as to results to be expected are frequently made. It would be worth your while to send for all of this literature, and then you will be in a position to judge for yourself just what your car can do after adding the different items.

It's Worth While to Study

I wonder if you could tell me where all the good schools for auto mechanics are. If you cannot give me this information, can you tell me who can? I am interested only in such schools as give a really good course and whose certificate and recommendations really mean something .- C. G. Stoehling, 222 W. Lewis St., Mankato, Minn.

addition to many automobile schools in the country, so many in fact that we could not properly judge them all, service schools are operated by several automobile manufacturers. The general public is not admitted to all of them, but anyone interested in spetouch with the organizations listed, for and compresses it in the crankcase. mission gears.

it is possible that you might qualify for With this system it is usually customadmittance in one way or another. These concerns include the following: Falcon Motors Corp., Elyria, Ohio; General Motors Institute of Technology, Flint, Mich.; Dodge Bros., Inc., Detroit, Mich.; Chrysler Sales Corp., Detroit, Mich.; The Studebaker Corp. of America, South Bend, Ind.

Also it is impossible for us to list all of the universities that are now giving very comprehensive automobile service courses, or service management courses, but you will find that this is a subject that is being added to the courses of study offered by many well-known institutions. Some of those that are offering automotive service courses, and which occur to us at the present time, are the following: Columbia University, New York City; Ohio State, Columbus, Ohio; University of Wisconsin, Madison, Wis.

The Two-Stroke Cycle Engine

I would like you to explain in MOTOR AGE two-stroke cycle engine used in motor boats. What kind of oiling system is used? Do the connecting rods dip in oil? Why is this engine more suitable than the four-stroke cycle engine for marine work?-Wyoming Subscriber.

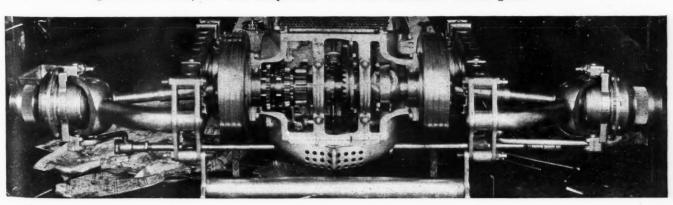
OW cost is the chief reason for the use of the two-stroke cycle engine in motor boat work. However, you will find that in more expensive boats and where two or four or more cylinders are used that the four-stroke cycle, as used in automobile work is commonly employed. In the two-stroke cycle engine there is no need of a camshaft and piston opens the intake and exhaust ports. The simpler type of two-cycle

ary to mix a certain amount of lubricating oil with the gasoline, so that the gasoline vapor in going into the crankcase lubricates the piston, cylinder walls and bearings. In some cases additional oilers are provided with oil cups which feed a certain amount of lubricant to the bearings. When the piston goes down on the explosion stroke it compresses the mixture in the crankcase. At the bottom of the explosion stroke the motion or the piston opens the exhaust ports so that the dead gas can go out. Further motion of the piston opens the inlet port and the compressed gas in the crankcase can then flow in. As the piston goes up it compresses this gas and the mixture is fired at the top of the stroke.

How Miller Front-Drive Special is Driven

Can you please tell me how a Miller Front-Drive Special is driven? How is the transmission connected to the rear end? How are the gears shifted by the driver?-C. Palermo, Box 84, Broad Top, Pa.

HE Miller front-drive is driven exactly like any other racing car. The transmission is not connected to the rear end. The gears are shifted by a gear-shift lever in much the same way that they would be shifted in any other racing car. We are showing an illustration of one of these Miller frontdrive axles. The gearing is similar to the gearing in a Ruckstell axle. The transmission or gear reduction is inside of the axle. Most of these jobs use a two-speed reduction, while a few of no valve required as the motion of the them use three speed. The clutch is at the forward end of the engine and the drive is directly from the clutch cific training would do well to get in engine draws fuel into the crankcase to the front axle by way of the trans-



Curbing the Appetite of an Oil Guzzler

We have a 1924 Packard touring car Model 126, which we have just recently given a com plete and thorough overhauling. The block was reground and new pistons and pins fitted and a very thorough overhauling job done in general. The engine was then broken in carefully, but has since developed into an exceedingly heavy user of lubricating oil. As long as the engine was being broken in and confined to a low rate of speed there was no noticeable loss of oil, but when this engine was driven at a rate of 40 or 45 miles an hour on long trips, it used almost a gallon of oil for every 100 miles. We have carefully examined this engine time and again and can locate no leaks through which this oil is escaping, as all gaskets are in good condition. We have also made a change in the breather which comes as regular equipment on this car, thinking that there might have been some loss occasioned through it, but we are unable to accomplish any noticeable reduction in oil consumption. We have exhausted all our ideas in regard to remedying this trouble and would be pleased to receive any suggestions which you might be able to make .- L. H. Courtright, 3210 Harrisburg Blvd., Houston, Tex.

F excessive oil were reaching the a combustion chamber it would be evident by blue smoke coming from the exhaust and from the rapid formation of carbon deposit in the cylinders. If that is not the case, the oil must be escaping from the engine, and while your gaskets are all tight it is not unusual for this oil to get away from the rear main bearing, especially at high speed.

The Packard Motor Car Co. used to recommend the addition of a 5/16 in. drain tube on the rear main bearing leading down below the level of the oil in the crankcase. When this did not cure the leakage, additional drain holes had to be drilled in the rear main bear-

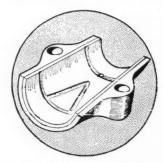
The illustration shows how it is possible to provide more drainage by drilling two additional drain holes. No. 1 shows the original drain hole in the cap and a similar hole, the same size, should be drilled in the same relative position on the other side of the web. The other additional drain is shown by No. 2 and is a No. 12 hole drilled at an angle of 38 deg. The location and angle of this hole are both very important. The reasons are that if the upper end of the hole does not meet the bottom of the oil groove it will be of little value and, also, because the lower end of the hole must be in line with the center line of the cap and is 1/2 in. from the center of the oil hole or the oil will not drain into the crankcase.

All three drain holes should meet the oil groove at the lowest point. If any of the drain holes do not connect with the oil groove in this way, the cap should be chipped out so that oil will

SHOP KINKS

Ideas that have proved useful

HAVE found the following to be a very effectual way of stopping the rear main bearing oil leak on the 1924 Star car. Remove the rear main bearing cap and cut two grooves in a "V" shape, as shown, starting from the main oil groove and cutting the groove directly toward the oil drain hole in the center of the rear end of the cap. Leave the end of the groove about 1/2 to 3/4 in. from the drain hole and be sure to cut the grooves just as deep as those that are already in the cap.-R. T. Harding, Grainland Garage, Doniphan, Neb.



Readers of MOTOR AGE are invited to submit ideas that they have found useful in doing some particular service job in the shop in a better or quicker way. For each one published \$2.00 will be paid. Whenever possible the idea should be accompanied by a sketch or diagram from which a drawing can be made.

not stand in the groove. In many cases it is found that the drilling of these extra drain holes makes it unnecessary to use the drain tube previously referred to. We are sure that end play in the crankshaft is not causing your trouble.

Copying Body Lines

To settle an argument we would like to if Ford, for example, could copy the body lines of another car, such as the Chrysler, or any other car, and not have to pay anything for using the body line developed by the other organization .- E. S. Lind, Box 157, Coatesfield, Neb.

ODY design is subject to a design D patent. If any particular body design is patented, another manufacturer may be restrained from copying the lines of the patented design. However, ounce. If you have the pistons out to

seldom indeed, that a question of this kind comes up. Generally, the originator of the design is likely to look upon it as a compliment when another manufacturer copies it, and to let it go at that, although he could prevent the copying of his design, provided he had first taken out a patent upon it. To settle your question definitely you would have to inquire of the patent office as to which designs are patented and which are not.

Unbalanced Parts Cause Vibration

We are in a jam and it is like this: We have a 1924 Essex which had the cylinder bores increased in size from 25% to 2 11/16 in., and when the job was finished the pistons hit the head. That was fixed up by turning off the edge of the pistons and putting on two head gaskets. The valves also were changed to the new style by boring out the ports. This car has run about 500 miles easily now, but when we step her up over 25 miles an hour the vibration and noise is bad. Is it necessary to put heavier weights on the crankshaft, or what is best to do to make her do her stuff?-Hansen & Peckham, New Lisbon, Wis.

T is not necessary to change the Counter balances in your car, unless someone has previously changed them. If you suspect that the original counterbalances have been altered, you should send the shaft complete with counterbalances to the Hudson-Essex factory at Detroit, where the service department will balance the job for you. If the counterbalances have not been disturbed, you have either an unbalanced set of pistons or the compression or valve action is badly off. In other words, some cylinders are firing much more energetically than others. We would suggest that you check the compression of each cylinder with a regular compression gage and if you have a variation of more than 3 lb., that condition should be corrected. To correct it you will probably find it necessary to refit the rings or reseat the valves, assuming, of course, that the cylinder head gaskets are not leaking. You will appreciate that if there is a restriction in one of the intake ports, the cylinders affected by this restriction will not receive as great a charge of fuel as will the other cylinders. This will naturally result in irregular operation of the car.

It is most likely, however, that the pistons are not well balanced. We assume, of course, that you are using light weight aluminum-alloy pistons, for that is what this car is designed to run with. These pistons should all be identical in weight within one-quarter for the progress of the industry, it is check up on this, we would also sug-

READERS' CLEARING HOUSE !-

plate with the heads down (the carbon having been first thoroughly cleaned off) and then with a gage carefully check to see that all wrist pin holes are at exactly the same distance from the head. You will appreciate that any variation in distance between the wrist pins and the piston head would result in uneven compression and irregular operation.

Runs Without Spark

I am having trouble with a 1928 Master Six Buick which I have in here for repairs. With a cold engine after running a block and shutting off the ignition, the engine continues to run for a few explosions. I have cleaned out the carbon and looked over the ignition. Could you give me some information on this?-Clarence Isakson, Hobart, Ind.

UST to be very certain that the igni-J tion is not being caused electrically, we would suggest that the next time you try this car that you remove the high-tension wire from the coil to the distributor. We do not really believe that any loose connection or cross connection in the switch is giving you current which causes the engine to hit a few times, but suspect that it is due to a hot spot in the combustion chamber. Such a hot spot might be caused by a thin edge of gasket projecting into the combustion chamber. Another and more likely cause of this hot spot, is a spark plug with a thin electrode or one which extends too far into the combustion chamber. As this becomes incandescent, it is capable of igniting the charge. We grant that this may seem rather strange in a cold engine, but it is a possibility and you may be certain that this condition is caused by one of the possibilities which we have mentioned.

Optional Ford Axle Ratios

On a Model T Ford is there any difference in the rear axle gear ratio between the Ford sedan and the Ford touring car? If so, what is the difference. I have been a mechanic for nine years and I have worked in a good many of the larger shops and I have never heard of there being any difference until the other day. A man who is supposed to be a mechanic said there was a difference in the pinion and a hot argument arose between us. If you will enlighten us on the subject I will be greatly obliged to you .- O. W. Eddington, General Delivery, Alto, Tex.

HERE are two different rear axle I gear ratios supplied for the Model T Ford car. These ratios are 4 to 1 and a 37/11 to 1. In both cases the ring gears are the same size, but the pinions are different, one being a 10-tooth pinion and the other an 11-tooth pinion. The differential drive gear has 40 teeth. We do not know how completely the

gest that you place them on a surface Ford Motor Co. adheres to this policy, but at one time it turned out the leak between the cover and the front of sedans, at least those produced in hilly territories, with the 10-tooth pinion, giving a 4 to 1 rear axle reduction. Also, many owners who have occasion the crankshaft oil thrower has been disto carry heavy loads in touring cars, turbed. We would suggest that you have substituted the 10-tooth pinion for the 11-tooth pinion, thereby changing their rear axle reduction of 3 7/11 to 4 to 1.

Model A Ford Compression

I have been trying to find the compression ratio of the Model A Ford engine, but so far have been unable to do so. Will you please furnish me this information?-Percy F. Hanes, 1408 E. Seventy-third St., Chicago, Ill.

THE FORD factory has never given out this information. You can figure it for yourself, however, by placing the piston at the bottom of the stroke with both valves closed. Then with a glass graduate, carefully measure the amount of water required to fill the cylinder and combustion chamber. Next, remove all the water from the chamber. Then place the piston at top dead center with valve closed, and measure the amount of water required to fill the combustion chamber only. Dividing the latter reading into the former gives you your compression ratio. We might add that the compression pressure is 80 lb.

Flint 80 Oil Leak

I have a customer who has a Flint 80. This car had the timing chain replaced and since then it has an oil leak around the crankshaft. What is the cause of this and how can it be stopped?-B. H. Cornell Garage, Henning, Ill.

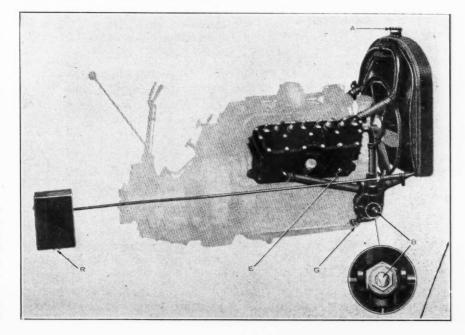
TE assume, of course, that in replacing the timing chain cover system.

that you saw to it that there was no oil the engine. We also conclude that the oil leak that you refer to is at the front end of the engine. It is possible that place a shim or washer about 1/32 in. thick behind this oil thrower for the purpose of bringing it closer to the oil ring of the timing chain cover. We make these suggestions because of the fact that you just worked on this part of the car. Another cause of leaking of oil at the front of the engine is a clogged breather pipe. Sometimes the fine screen in the breather pipe becomes clogged with dirt and forces the crankshaft opening in the cover to serve as a breather, thus resulting in loss of oil at this point.

Cadillac Condenser Tank

What is the purpose of the small tank under the Cadillac connected to the radiator overflow pipe?-Percy F. Hanes, 1408 E. Seventy-third St., Chicago, Ill.

W E are showing the hookup of this system. The tank underneath the car that is connected to the overflow pipe is a condenser tank. This has a capacity of 3 qt. Its purpose is to receive any overflow from the cooling system when the system becomes thoroughly heated and upon contraction of the system, to return this fluid so as to reestablish the original level. Obviously, in order to function, all connections should be kept carefully tightened in order to prevent air leak, or the fluid will not return from the condenser tank to the cooling





"Half Cocked" Is Less Than We Deserve

UBURN, IND .- In your issue of A March 1 you carried an article on page 19 headed "Stutz Continues Stock Victories" in which you give them credit for capturing the stock car record for one mile, and also, winning the cup offered by the Daytona Beach Chamber of Commerce.

We hardly see how you could run this in your March 1 issue as no publicity or advertising on this run was to be released without the official sanction of the American Automobile Association, and for your information and as you doubtless know, Auburn was awarded the cup offered by the Daytona Beach Chamber of Commerce according to the decision of the three A's, and there was no official world's record allowed as the Stutz models were not strictly stock, and the three A's claimed the compression ratio on the Auburn was too high, even though it is the same as many cars being delivered off the end of the assembly line; as you well know there is a certain amount of variation in the milling of the cylinder heads.

However, we feel as though Motor AGE went off about half cocked on this article on Stutz and without any mention of Auburn being in the trials when as a matter of fact Auburn made an average of better than 104 miles an hour, and incidentally, made the fastest one-way time of any car at Daytona



of over 108 miles per hour.-H. G. Hersh, Advertising Manager, Auburn Automobile Co.

LETTERS to the editor from those whose "attention has been called"; from those who point with pride and those who view with alarm, from those who are easy to please and those who are hard to please; from those who are happy when they find a good thing and those who are happier when they find something they consider not so good; from those who boost and those who knock; from those who see the doughnut and those who see the hole; in other words, Dear Subscriber, from you and you and youas well as from the man who borrows your copy of Motor Age or reads it over your shoulder.

Likes News of the Fast Set HICAGO, ILL. - The Readers' Clearing House and the race news are the most interesting features of MOTOR AGE to me.-Percy F. Hanes.

A Tireless Tire Data Reader FOND DU LAC, WIS.—The tire data found in Motor Age is its most interesting feature to me.-R. C. Plummer.

A Nose for News EXHOMA, OKLA.—We like the news items and general information found in Motor Age .- F. E. Hob-

More "Itolatry" ANNIBAL, MO.—I, too, like "All great help to me in my line of work.

of It."—T. C. Moon.

Tony Pushes Us Up REEN BAY, WIS.—The Readers' J Clearing House interests us most. -Tony Amerosius.

Ray! Rae J AGE.—R. C. Rae.

Here It Is, Van!

LEVELAND, OHIO-For a number of months Motor Age has been publishing a series of futuristic drawings of the heads of automotive manufacturing concerns. All the men shown were the presidents of their respective companies, with one exception. This exception appeared a few weeks ago, in the form of a drawing of Leon R. German, who at that time was not president of Peerless, but was vicepresident and general manager.

It was a fitting compliment, of course, as everyone knew that Mr. German was the operating head of the company, even though the title of president had not been conferred upon him.

It is hinted, however, that Motor Age may now boast of occult powers and the ability to foretell coming events. If so, they may feel free to run a big story, any time, of the splendid showing that Peerless is going to make in the next six months. It certainly is in the cards.—Peerless Co-Operator.

Rush Rushes Thanks

REENLAND, ARK .- The infor-I mation given me by C. Edward Packer in the Clearing House is just what I need and want.—Alva J. Rush.

Compound Interest

STORM LAKE, IOWA—I have been an interested reader of Motor Age for many years and have found it a



I have also been very much interested EBO, WYO.—I like all of Motor in your shop kinks and ideas.—Ernest Neuman.

Prices, Weights and Equipment of Current Passenger Car Models

		Passengers and Model	F.O.B. Price Doors Shipping	Standard Equipment	Passengers and Model	F.O.B. Price Doors Shipping	Standard Equipment	Passengers and Model	F.O.B. Price Doors	Standard Equipment
Specificati	nt Changes in ions and Price nce last issue:	CADILLAC "341" "Fisher" 2-4p. Rondster 5p. Phaeton 5p. Sp. Phaeton 7p. Touring	\$3350 2 459 3450 4 464 3950 4 512	0 aeghlmnprx 0 aeghilmnprx 5 Beghiklmnp rsx 0 aeghlmnprx	2-4p. Roadster 2-4p. Sp. Rdstr 4p. Coupe 2-4p. Coupe 5p. Roy. Sedan 5p. Town Sedan.	1595 2 31 1545 2 31 1595 4 32	05 aeghmnrwx 55 aghmnrux 40 aghmnrx 75 aghmnrtx	DURANT "Four"Roadster Coupe 5p. Sedan 5p. Sedan	495 2	955 ah 185 ah 1260 ah 335 ah
	skine	2-4p. Coupe 2-4p. Conv. Coupe 5p. Coupe 5p. Sedan	3295 2 485 3495 2 466 3495 2 476 3595 4 488 3395 4 486	0 aeghlmnprx 5 aeghlmnprx 60 aeghlmnprtx 60 aeghlmnprtx 75 aeghlmnpcux	5p. Town Sedan 2-4p. Con't Coupe. 5p. Crown Sedan. 7p. Town Cab	1795 4 32 3595 4 34		2p. Coupe	795 2 795 2 2 895 4 2	2235 ah 2395 ah 2425 ah
Graha	Cabriolet am-Paige	7p. Sedan 5p. Imp. Sedan 7p. Imp. Sedan 5p. Imperial Cab 7p. Imperial Cab "Fleetwood"	3695 4 496 3745 4 495 3895 4 505 3745 4 495 3895 4 505	55 aeghlmnprtx 55 aeghlmnprtx 55 aeghlmnprtx 56 aeghlmnprtx 57 aeghlmnprtx 58 aeghlmnprtx	Imp. "80" 2-4p. Roadster 5p. Sedan 5p. Town Sedan 7p. Sedan Lim	2945 4 41 3057 4 42 2995 4 41	70 aeghlmnrwx 25 aeghlmnrx 50 aeghlmnrx 40 aeghlmnrx 85 aeghlmnrx	5p. Touring 2-4p. Sp. Rdster 2-4p. Collap. Cab 2-4p. Coupe 5p. Sedan 5p. Sedan	1025 2 2 1045 2 2 975 2	2217 aghmn 2300 Beghkma 2420 aghmn 2305 aghmn 2425 aghmn 2565 aghmn
"(629" Models	5p. Sedan 5p. Sedan Cab 7p. Sedan 7p. Sedan Cab 5p. Imperial 5p. Imperial Cab.	4095 4 499 4195 4 509 4195 4 509 4245 4 509 4245 4 509	aeghlmnprtx aeghlmnprtx aeghlmnprtx aeghlmnprtx aeghlmnprtx aeghlmnprtx aeghlmnprtx	CUNNINGHAM "V-7" 7p. Touring		00 Ceghjklmnp rsv 00 Ceghjklmnp	5p. Brougham "75" 5p. Sedan 5p. Brougham	1385 4	2990 aghmn 3190 Beghkma
	debaker w Models	7p. Imperial 7p. Imperial Cab TownCabCon TownCabCon Lim Bro'm Con	4445 4 51 5000 4 5500 4	35 aeghlmnprtx 35 aeghlmnprtx aeghlmnprtx aeghlmnprtx aeghlmnprtx	4p. Coupe 6p. Limousine	7600 2 47	coc Ceghikimip rsx 00 Ceghikimip rtx 00 Cegnikimip rtx	ELCAR "6-79" 4p. Roadster 5-7p. Touring 4p. Brougham 5p. Sedan	1295 1 1295 2	2580 shnr ahnr 2670 shnr 2750 shnr
		CHANDLER "Big Six" 7p. Touring. 5p. Met. Sedan. 4p Coupe. 3p. Ctrv Club. 7p. Sedan.	. 1525 4 35 . 1725 2	60 hjimnw 70 ahmat ahmaot ahmaot ahmaot	DAVIS "99" 4p. Polo Rdster 5p. Touring 4p. Coupe 5p. Emp. Sedan.	1795 4 31 1865 1 31	995 aeghmar 25 aeghimars 45 aeghmar 275 aeghmnort	"8-78" Std. 2-4p. Roadster 5p. Touring 2-4p. Coupe 5p. Sedan	1395 2	ahnr abnr ahnr ahnr
Passengers and Model	Standard Equipment	5p. Royal Sedan. 3-5p Cabriol. t. "Spec. 6" 5p. Touring 5p. Sedan	. 1725 4 38 1825 2 34 . 995 4 25	oo ahmnoptx 50 ahmnop 75 ahn	DIANA "St. 8" 5p. Phaeton	. \$1695 4 3 r 1795 2 2	100 agmn 195 agmnw	"8-78 Royal" 4p. Roadster 5p. Touring 4p. Coupe 5p. Sedan	. 1495 1495 . 1495 . 1495	aeghmnor aeghmnor aeghmnor aeghmnor
"76"	\$1195 acghmrw aeghmrw 1395 aeghmru 1295 aeghmru 1395 aeghmru	"Spec. In. 6" 5p Touring 3-5p Roadster 5p. Sp Touring. 3-5p. Cabriolet	. 1085 4 25 . 1155 2 24 . 1165 4 27 . 1215 2 27	75 ahn 70 shnw 30 hnw	5p. Roy. Roudste 5p. P.B. Ristr 5p. Cab. Rdstr 5p. Collap. Rdstr 5p. 4d. Sedan 5p. 2d. Sedan	1995 2 3 2195 2 3 2095 4 3	160) aghmar 160) aghmar 160) aghmar 170) aghmar 170) aghmar	"8-82" 5-7p. Touring 2-4p. Roadster 4p. Coupe 5p. Prin. Sedan	. 1695 1695 2 1695 2	aeghnor aeghmnor aeghmnor aeghmnor
"88" 2-4p. Roadster Speedster 5p. Tcuring Cabriolet	1495 aeghmnrw 1695 aeghmnrw aeghmnrw 1695 aeghmnru	3p. Coupe 5p. Sedan 5p DeL. Sedan 3-5p. Coupe	. 1055 2 26 1085 4 28 1155 4 28	75 ahn 30 ahn 36 hilnt 35 ahn	DODGE BROS. "Std. 6" 2-4p. Conv't Cab	s. \$ 945	bhr	"8-91" 2-4p. Roadster 4p. Coupe 5p. Prin. Bro'm 5p. Prin. Sedan	. 2295 4	aeghmnopru aeghmnopru aeghmnopr ux aeghmnopr
5p. Phaeton Sed 5p. Sp. Sedan 5p. Sedan 4115" 2-4p. Roadster	1895 aeghmnr 1595 seghimnru 1695 aeghimnru	"Rey. St. 8" 7p. Touring 4p. Coupe 4p. Ctry. Club 5p. Sedan 7p. Sedan 3-5p. Cabriolet	. 1995 2 36 1995 2 36 1995 4 39 2195 4 39 2095 2 36	55 hilmnpwx 40 abmnoptx 40 ahmnopx 00 shmnoptx 50 ahmnoptx	2p. Coupe 5p. Sedan 5p. Sedan DeL "Victory 6" 2p. Coupe	875 2 895 4 970 4	ahr ahr ahrt	"120" 5-7p. Touring 5p. Std. Sedan 7p. Std. Sedan	2465 4 2465 4	ux beghnprx aeghmnoprts aeghmnoprts
7p. Touring 2-4p. Cabriolet 5p. Phaeton Sed 5p. Sedan 7p. Sedan BUICK	aeghmnrw	CHEVROLET 2p. Roadster 5p. Touring 5p. Coaeh. 2p. Coupe 5p. Sedan. 2-4p. Cabriolet.	. \$495 2 20 . 495 4 20 . 585 2 23 . 595 23	Bhilmnoptx 330 dr 990 dr 660 dhr 335 335 dhru 700 dhr	2-4p. Coupe. 5p. Sedan. 4p. Brougham. 4p. DeL. Bro'm. 5p. DeL. Sedan "Senior" 4p. Cab. Rdstr. 4p. Sport Cab. 5p. Sp. Sed. DeL 5p. Sedan.	. 1095 4 . 1095 2 . 1170 2 . 1170 4	aghar aghar aghar Beghjart aeghnrt 353 Beghmarx Beghjkmarx Beghjkmartx 421 aeghmartx	ERSKINE SIX "51" 4p Spt. Rdstr 2p. Cabriolet 5p. Club Sedan 2p. Bus. Coupe 4p. Spt. Coupe 5p. Sedan, Roya	. 795 2	Beghmarw 2480 aghar 2545 aghar aeghar aeghar 2545 aeghar
5p. Touring DeL. 2-4p. Coupe 5p. 2d. Sedan 5p. 4d. Sedan 4p. Ctry. Club 5p. Town Bro'm 40. Coupe	1195 2/3215 aghmnr 1295 4 3300 aghmnr 1275 4 3190 aghmnr 1375 4 3305 aghmnr	5p. Imp. Land CHRYSLER "52 5p. Touring. 2-4p. Rosdster. 2p. Club Coupe. 5p. Sedan. 5p. Sedan. 2-4p. DeL. Coup	715 4 24		du PONT "E" 4p. Roadster 5p. Touring 4p. Coupe 4p. Coup't Coup	\$2800 3 2800 3 2800 3 2800 3 2800 3	afghkmnprx afghkmnprx afghkmnprx afghkmnprtx afghkmnprtx	ESSEX "Super Six" 2-4p. Coupe 5p. Coach 5p. Sedan	\$775 2 735 2	2535 ahmnr 2560 ahmnr 2660 ahmnr
5p. 4d. Sedan	1495 4 3870 aghmnr 1575 aghmnr 1495 2 3655 aghmnr 1525 4 3735 aghmnr 1850 - 3940 aghmnr 1765 2 3905 aghmnr 1925 4 4050 aghmnr	5p. DeL. Sedan. "62" 5p. Touring 2-4p. Roadster. 2p. Bus Coupe. 5p. Sedan 5p. Sedan 5p. Land. Sedan	. 1095 4 2 1075 2 2 1065 2 2 1095 2 2	740 aghnr 705 aeghnrw 780 aghnr 855 aghnr	5p. Sedan. "F" Phaeton. Sp. Phaeton Sedan. 5p. Limousine. 7p. Sedan. 7p. Limousine. Conv't Sedar	3950	100 Bfghikmnprt	FALCON-KNIGH "12" 4p. Roadster Touring 4p. G.G. Rdster 2-4p. Coupe 5p. Sedan 5p. Sedan 5p. Landau	\$1045 995 1095	2450 ghr 2500 Beghkmnrw 2800 ghr 2808 ghr 2875 ghor 2735 ghrtu

g e

d st h.

en GE a k.

ted est

KEY TO SYMBOLS:

A—Wood wheels with spare

a—Wood wheels,

B—Wire wheels with spare

b—Wire wheels.

C—Optional wheels with spare.

c—Type of wheels optional

D—Disk wheels with spare.

d—Disk wheels.

e—Front and rear bumpers.

f—Front bumper.

g—Shock absorbers or snubbers.

b—Automatic windshield wiper

i—Trunk and trunk rack.
j—Trunk rack, no trunk.
k—Spare tire.
l—Spare tire lock.
m—Engine heat indicator.
n—Dash gasoline gage.

<sup>Car heater.
P—Cigar lighter.
r—Rear traffic signal.
Spotlight.
t—Vanity and smoking set

Smoking set.</sup>

<sup>Wanity set
Windshield wings
Clock
Overall length
Prices on application</sup>

Prices, Weights and Equipment of Current Passenger Car Models

Passengers and Model	F.O.B. Price	Shipping Weight	Standard Equipment	Passengers and Model	F.O.B. Price	Doors Shipping Weight	Standard Equipment	Passengers and Model	F.O.B. Price	Doors	Shipaing	Standard Equipment	Passengers and Model	F.O.B. Price	Shipping Weight	Standard Equipment
FORD "A" -4p. Roadster p. Phaeton p. Coupe p. Tudor Sedan4p. Spt. Coupe	395 495	2 4 2 2 2	Bghnr Bghnr Bghnr Bghnr Bghnr	HUPMOBILE "Century 6" 5p Phaeton 4p. Sportster 7p. Phaeton 5p. Sedan 2d	\$1425 1435 1455 1345	2 2880 4 2950	aghnr	LA SALLE 125" W.B. 2-4p. Roadster 5p. Phaeton 5p. Sp. Phaeton	\$2495 2495 2975	4 4	3770 4170	rsx	McFARLAN "Str. 8" 131" W.B. 2p. Roadster 5p. Touring 7p. Touring	\$3050 2650 2750	4 3400	afghlmnprx afghlmnprx afghlmnprx
RANKLIN "Series 12"	570	4	Bghnr	4p Coupe	1385 1395 1475 1795	2 2930 4 3040 2965 4 3300	aghnr aghnr aghnr aghnvx	2p. Bus. Coupe. 5p. Family Sedan. 2-4p. Coupe. 2-4p. Conv. Cpe. 4p. Victoria.	2450 2550 2550	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	4030 3965 3890 3985	aeghlmnorx	4p. Sp. Phaeton 3p. Town Coupe. 5p. Sedan. 5p. Brougham. 7p. Town Car. 136" W.B.	3180 3180 3180 3180	4 3200 2 3650 4 3650 4 3650	afghlmapra afghlmapra afghlmapra afghlmapra afghlmapra
p. Coupe -5p. Vic. Bro'm p. Sedan p. Ox. Sedan	\$2625 2760 2790 2815	3470 3500 3500	aeghklnprx aeghiklnprx aeghklnprtx aeghklnprtx	7p. Touring 2-4p. Roadster 5p. Brougham 2-4p. Coupe 5p. Sedan	1895 1895 2095 2195 2195	4 3369 2 3355 2 3515 2 3465 4 3545	aghnvx aghnvx aghnvx 'ghnvx aghnvx	5p. Town Sedan 5p. Sedan 5p. Town Cab 5p. Trans. Cab	2495 2495 4500 4700	4	4065 4090	neghlmnprx neghlmnprtx	7p. Sedan	3690 3780	4 4000 4 4000	afghlmnprx afghlmnprx
p. Spt. Sedan -5p. Con'vt Cpe . 128" W.B. -4p. Sp. Runab't p. Sp. Touring	2910 2925 2975 2975	3450	aeghiklnprx aeghklnprx aeghklnprx aeghklnprx	5p. Victoria 7p. Sedan 7p. Sedan Lim "Century 8" 5p. Phaeton	2195 2345 2520 1905	4 3360 4 3360	ıghmnv	134" W.B. 7p. Family Sedan. 5p. Coupe. 5p. Cab. Sedan. 7p. Sedan.	2625 2675 2775	4	4345	aeghlmnprtx aeghlmnprtx aeghlmnprtx aeghlmnprtx	2p. Roadster 5p. Spt. Tour 7p. Touring 5p. Sedan	5800 5600 5700 6720	4 4700 4 5200	afghlinnpra afghlinnpra afghlinnpra afghlinnpra
7p. Touring	3060 2980 3015 3080	3700	aeghkinprx aeghkinprtx aeghkinprtx aeghkinprtx	2-4p. Sportster 7p. Phaeton 5p. Sedan 4p. Coupe 5p. Sedan	1915 1935 1825 1865 1875	2 3385 4 3455	aghmnv aghmnv aghmnv aghmnv aghmnv	5p. Imp. Sedan 7p. Imp. Sedan	2775 2875			aeghlmnprtx aeghlmnprtx	7p. Sedan	6720 6920 9000	4 5200	afghlmnprx afghlmnprx afghlmnprx
GARDNER "75 Std." Ip. Roadster Ip. Coupe	1295,	2 3290	afhmnr afhjmnr afhjmnr	JORDAN	1955	3345	aghmnv	LINCOLN				,	MARMON "68"	*140E		
ip Vic. Coupe ip. Club Sedan ip. Std. Sedan '75 DeL" ip. Roadster	1390	4 3265 4 2 2995	afhmnr afhmnr aeghmnr	"C oss C'ty 6" 4p. Blue Boy 4p. Spt. Salon 2-4p. Tomboy 5p. Sedan	\$1495 1295 1395 1395	2 2775 2 2650	Bceghkmnrx aghjmnrx aghmnrx aghmnrtx	2p. Spt. Rdster 2-4p. Club Rdstr. 7p. Spt. Touring 4p. Spt. Phaeton	\$4600 4600 4600 4600 4600	4	5010 4940 4910	aegklnprx aeghklnprx aegklnprx begjklnprwx	2p. Roadster 5p. Sedan 4ρ. Vic Coupe 2p Coupe '78"	\$1495 1395 1450 1395	. 2867 2827	ahmnrt ahimnrt ahmnrt
ip. Sp. Coupe	1395 1395 1490 1595	2 3290 4 3266 4	Daeghjmnr Daeghjmnr Daeghmnr Daeghmnr	4p. Playboy 2-4p. Sp. Coupe 5p. Cus. Sedan 4p. Cus. Vict	1845 1895 1895 1895	2 3070 4 3200	aghmarx aghmarx aghmartx aghilmartx	4p. Coupe	4800 4800 4800 5000 5000 5200	4 4	4930 5010 4720 5050	aegklnprx aegiklnprx aegklnprtx aegklnprx aegklnprtx	2-4p. Roadster 4p. Speedster 2-4p. Collap. Cpe. 2-4p. Coupe 4p. Vic. Coupe	1965 1995 1895 1995	4 3052 2 2987 2 3097 2 3066	ahlmnor wa ahlmnora ahlmnora ahilmnora
p. Brougham p. Sedan Cus. Coupe "95"	1875 1895 2095	4 336	Aeghjmnr Aeghmnr	4p. Collap. Coupe 4p. Perm. Coupe 5p. Victoria 5p. Sedan	1995 1995 1995 1995	2 3185	aghmorx aghmorx aghimortx aghmortx	7p. Limousine 4p. Berline 7p. Limousine 7p. Brougham 6p. Ber. Landau	5500 6000 6500 6500		5115 5380 5025 5140	aegklnprtx aeghklnprx aeghklnprx aeghklnprx aeghklnprx	5p. Sedan	1895 3485 3485	2 4251 2 4256	aeghlnpra aeghlnpra aeghlnpra
2-4p. Collap. Cpe. 5p. Brougham 5p. Sedan		4	aeghmnprx aeghmnprx aeghimnprx aeghmnprx	KISSEL "6-70"	P1505	0000		7р. Cabriolet 7р. Le Baron Cab 7р. Holbrook Cab. 7р. Collap. Cab.	6600 7000 7200 7300		5200 5280	aeghklaprx aeghklaprx aeghklaprx aeghklaprx	5p. Phaeton	3485 3565 3565 3195 3485	4 4480 2 4374 2 4452 2 4373	laeghlnprx laeghilnprw laeghlnprx laeghlnprx laeghlnprtx
GRAHAM- PAIGE "610"				4p. Cpe. Roadster 5p. Bro'm Sedan 5p. Victoria 5p. Sedan	1495 1595 1595	4 2915							5p. Brougham 5p. Sedan 7p. Sedan	3485 3565 3565 3640	4 4525 4 4498 4 4620	aeghlnprtx aeghlnprtx aeghlnprtx aeghlnprtx
Pp. Coupe pp. Sedan "614" Ip. Coupe	\$860 875	2	aghmnr aeghmnr aghmnr	"8-80" 125" W.B. 5p. Phaeton 4p. Speedster 4p. Cp. Rdstr	1885 2095 2095	2 3155	ahmur ahmur ahmur	LOCOMOBILE "8-70" 5p. Brougham 5p. Sedan	\$2100 2100	4	3525	afghkmnrx afghkmnrx	5p. Cus. Sedan 7p. Cus. Sedan 7p. Cus. Limou	3960 4075 4175	4,4678	aeghlnprta aeghlnprta aeghlnprta
"619" Ip. Coupe	1295	4	aghmnr aeghmnrtx	5p. Spec. Bro'm 5p. Bro'm Sedan 5p. Conv. Bro'm 132" W.B.	1995 2095 2495	2 3345 4 3400 3518	ahmnr ahmnr ahmnr	4p. Vic. Coupe "8-80" 4p. Spt. Touring	3300	2	3600	afghkmnrx aegh k'mnprx	MOON "6-60" 5p. Phaeton 3 5p. Roy. Rdstr. 3-5p. Roy. Cab	\$995. 1095, 1295	4 2340 2 2330 2 2575	anw
"629" 5p. Sedan	1595	4	. Deghjimnpr	7p. Touring	2495	4 3155 4 3455 3630	ahmnr ahmnr ahmnr ahmnr	4p. Coupe	2850 2900 3350	2 4 4	3780 3950 3990	aeghklumprtx	5p. Coach	995 1195 1295	2 2420 2 2520 4 2605	ahin Sahn
op. Town Sedan	2085 2110 2185	4	Deghjlmnpr tx Deghjlmnpr tx	4p. Coupe Rdstr. 5p. Brougham 5p. Sedan 4p. Victoria	1998 1898 1998 1998	3250	8	7p. Sub. Sedan	1 5	4	4280 5030	aeghklmnprtx afghjklrsx afghiklrs afghklrsx	5p. Touring 5p. Roy. Rdster 5p. Collap. Cab 5p. Sedan DeL 5p. Sedan DeL	1195 1395 1795 1395 1545	4 2560 2 2600 2 2720 2 2710 4 2860) dnw)) dno
2-4p. Coupe	2185 2285 2385	4	Deghjlmnpr tx Deghjlmnpr	131" W.B. 5p. Phaeton 4p. Speedster 4p. Cpe. Rdstr. 5p. Spec. Bro'm	218 239 239 229	2 3360 2 3578 5 2 367	ahmnr ahmnr ahmnr ahmnr	7p. Touring 7p. Tour Lim 6p. Brougham 5p. Vic. Sedan 7p. Lim. Enc. Dr		4 4 4	5330 5640 5464 5600 5868	afghklrstx afghklrstx afghklrstx afghklrstx afghklrstx afghklrstx	"6-72" 2-4p. Roy. Rdstr. 5p. Roy Cab Rdstr. 5p. Royal Sedan.	1445	2 2813 2 3050	0 aghmn 5 aghmn 0 aghimn
7p. Sedan	2410	2	. Deghjlmnpr tx Deghjlmnpr tx	5p. Bro'm Sedan. 5p. Conv. Bro'm. 139" W.B. 7p. Touring 5p. Bro'm Sedan.	. 228 259	386 4 363 4 375	ahmnr ahmnr ahmnr ahmnr	7p. Cabriolet	. 590	0 4	4475	aeghiklmnpr tx	5p. Royal Sedan. "8-80" 2-4p. Roadster 5p. C.C. Sedan.	2195	4 350	B chmnr
HUDSON "S" 2-4p. Coupe	\$1295	2 352	tx 5 ahmneu	7p. Sedau "White Eagle" 132" W.B. 4p. DeL. Spdstr.	327	5	beghx	4p. Roadster 7p. Touring 5p. Vic. Sedan	. 600 . 730	0	4842	aeghklmnpr tx aeghklmnpr tx afghimprtx	Sp. Sedan	2195	4 350	0 chmnr
5p. Coach	1250 1325 1650 1450	4 378 4 372	5 ahmnru 5 ahmnru 0 aghmnru 0 aghmnru	4p. Coupe Rdstr 5p. De Victo.ia 139" W.B. 4p DeL. Tourste 5p. De Bro'm.	318 327 327	5	beghx beghx beghx beghx	7p. Suburban 4p. Vic. Sedan	. 750	0 4	4615	aighmprtx aeghklmnpr tx afghmprtx afghmprtx	"Std. 6" 5p. Touring 2-4p. Conv't Cab 2p. Coupe 5p. Sedan	. 845 . 845	2 250 2 234 2 245	5 Dghnr 5 Deghnr 5 Dghn: 0 Dghnr
4p. Victoria 7p. Sedan	1650 1950	2 371	0 aghmnru 5 aghmnru	7p. DeL. Sedan. 7p. Ber Sed DeL	. 378		begnivx begnivx	Collap. Cab.	775			aeghklmnpr tx	5p. Sedan 5p. Land Sedan.	925	4 250	0 Dghnr 0 Deghnr

A—Wood wheels with spare.
a—Wood wheels.
B—Wire wheels with spare
b—Wire wheels
C—Optional wheels with spare.
c—Type of wheels optional

D—Disk wheels with spare
d—Disk wheels.
e—Front and rear bumpers
f—Front bumper.
g—Shock absorbers or snubbers.
h—Automatic windshield wiper.

KEY TO SYMBOLS:

i—Trunk and trunk rack, j—Trunk rack, no trunk. k—Spare tire lock m—Engine heat indicator. —Dash gasoline gage.

•—Car heater.

p—Cigar lighter

r—Rear traffic signal

s—Spotlight

t—Vanity and smoking set

u—Smoking set

v—Vanity set
w—Windshield wings
z—Clock
Overall length
\$—Prices on application

Prices, Weights and Equipment of Current Passenger Car Models

Passengers and Model	F.O.B. Price	Doors	Shipping Weight	Standard Equipment	Passengers and Model	F.O.B. Price	Doors Shipping Weight	Standard Equipment	Passengers and Model	F.O.B. Price	Doors	Standard Equipment	Passengers and Model	F.O.B. Price	Doors Shipping Weight	Standard Equipment
"Special" 4p. Roadster	1225	2	2980	Dghnr	"Std. 8"	3550	4	}	"Wolverine" 4p Cabriolet	1195	2 285	0 aeghinr	"Commander" 4p. Sp. Roadster	\$1695	2 3333	aghlmnr
In. Touring	1135	4	2980	Dghnr	p. Phaeton	3650	4		5p Brougham	1195	2,293	0 aehinr	5p. Club Sedan	1435		
2-4p. Cabriolet 2p. Bus. Coupe	1290 1165	2	3030	Dghnr Dghnr	-p. Coupe -p. Conv't Coupe	3550 3650	2		5p. Sedan	1295	4 309	0 aeghinr	2p. Cpe. Regular. 4p. Vic. Regular.	1495 1495	2 3500	agh mnr agh mnr
5p. Sedan 4p. Coupe	1213 1243	2	3150	Dghinrt Dghnr	4p. Coupe 5p. Club Sedan	3750 3750	2		ROAMER "8-78"				5p. Sed. Regular	1495 1625		aghlmnru aghlmnpr
4p. Victoria	1298	2	3170	Dghnr	p. Sedan	3750	4		2p. Roadster	\$1595	2 345	60	4p. Cpe. Regal 4p. Vic Regal	1625	2 3500	aghlmnpr
5p. Sedan 5p. Coupe	129			Dghnrt Dghinrt	8p. Sedan Lim	3850	4		2p. Coupe 5p. Sedan	1750 1795	2 322	50	5p Sed. Regal 2-4p. Cabriolet	1625 1625	4 3466	aghlmnpru
"Advanced"		1		- 6	PEERLESS				'8-80"				"President 8"	1985	4 4000	aghilmanau
121" W.B. 4p. Roadster	147			Dghmnr	"6-n6" 2-4p. Roadster	\$1195		deghlmnr	2p. Coupe 5p. Brougham	1985 1985		0 ag	5p. Sed. Regular 7p. Sed. Regular	1985		aghilmnpru
5p. Touring 5p. Sedan	134			Dghmnr Dghimnrt	5p. Phaeton 2-4p. C'pe Rdstr	1195 1295		aghlmnrw deghlmnr	5p. Sedan	1985			5p. State Sedan	2250	4 4185	Bghiklmnp rtux
5p. Sedan	149			Dghmnrt	5p. Brougham	1195	4		5p. Tourer	2495			7p. State Sedan.	2250	4 4225	Bghjklmnpr
127" W.B. 7p. Touring	144	0 4	3500	Dghmnr	5p. Sedan	1295	4 2898	deghlmnr	5p. Sedan	2985 3285			7p Limousine	2450	4 4300	tx Bghjklmnpr
5p. Sp. Touring	154			Bghimnprt Dghmnrt	5p. Phaeton	1395		aeghlmnrw	ROLLS ROYCE	1			STUTZ "BB"			tx
4p. Coupe	177	5 2	2 3650	Dghmnr	2-4p. Roadster 2-4p. Coupe	1495 1565	2 297	ceghlmnrw aeghlmnc	"Si. Ghost"				"Custom"			
5p. Amb. Sedan	192			Dghinprtx Dghnrtx	5p. 2d. Sedan 5p. Std. Sedan	1395 1395		aeghilnr aghmnr	Open Models Closed Models	5		. Bfghjkmprx Bfghjkmprtx	131" W.B. 2p. Speedster	\$3495	2 4478	aefgilmaner
7p Imp. Sedan	216			Dghnortx	Spt. Sedan	1395	4 310	0	"New Phan"	1:	1.1		4p. Speedster	3595	4 4509	aefgjlmnprx aeghjlmnprx
	1	١			5p. DeL. Sedan	1795		Deghlmnr	Open Models Closed Models	8		. Beghjkmprx Beghkmprtx	4p. Speedster 2p. Black Hawk.	3845 4895	2 4302	aeghilmnprx beghilmnprx beghilmnprx
OAKLAND	1	ı			5ρ. Phaeton 2-4ρ. Sp. Roadster	1695	4 293	0 aeghlmnrwx 0 aeghlmnrwx	STEARNS-	1			4p. Black Hawk. 2p. Coupe	. 4945 . 3495	2	beghjlmnprx aeghjlmnpru
"AA-6"					4p. Coupe	1725	5 2 3 3 0 5	0 aeghlmnrx	KNIGHT	1	11		4p. Vic. Coupe	. 3495	2 4679	aeghilmnpru
5p. Sp. Phaeton . 4p. Sp. Rdster	\$109 107		4 2620 2 2730	aehin	4p. Sedan 5p. Sedan	1898	2 315	0 aeghilmnrx 0 aeghlmnrtx	126" W.B.			1	5p. Sedan 5p. Brougham	3570	4 497	aeghilmnpru aeghilmnpru
2-4p. Cabriolet 5p. 2d. Sedan	. 115	5	$\frac{2}{2}$ $\frac{2825}{2890}$	ahn	5p. Landaulet	1998		0 aeghlmnrtx	2-4. Cab. Rdstr	\$2495			2p. Cab. Coupe 145" W.B.	3695	2 4520	aeghjlmnpru
3p. Land. Coupe.	. 104	5	2 2805	ahn	4p. Victoria 128" W.B.		2		5p. C. C. Sedan 5p. Sedan	2495 2495		::	7p. Speedster	. 3895	4 4748	aeghjlanprz
5p. 4d. Sedan 5p. Land. Sedan.	114		4 2980 4 3050	ahnu aehnou	7p. Sedan	198	4	. B	134" W. B.	2645			7p. Sedan 7p. Sedan Lim	3895	4 5018	aegnjimnprt aeghjimnprt
VDI ZAZZA ZOSAZZ	1-		1		126" W.B.				7p. Sedan	. 2845			"Weyman Cus."	0000	1010	acgujimupic
	1	1			5p. Coupe 5p. Sedan	270	381	0 Deghilmnrtx 5 Deghlmnrtx	7p. L'mousine "F-6-85"	2945			131" W.B. 2p. Black Hawk.	. 4895	2	beghilmnpry
OLDSMOBILE "F-28"	1	1			133½" W.B.				4p. Roadster	. \$3250	2 42	52 aeghklm n pr	5p. Sedan	. 4120	4 4393	aeghilmnpru aeghilmnpru aeghilmnpru aeghilmnpru
Sp. Roadster.	. \$99			ceghmnr	2-4p. Roadster 7p. Sedan	224	5 397	0 Deghlmnrx 5 Deghlmnrtx	4p. Touring	. 3250	4 43	22 aeghjklmnpr	4p. Sedan 4p. Coupe	. 4120	2	aegnjimnpru
5p. Sp. Touring. 2p. Coupe	99			ceghmnr	7p. Cus. Sed. Lin 5p. Sedan	264		5 deghlmnrtx 0 Deghlmnrtx	4p. Cab. Rdstr	. 3550		wx 00 aeghklmnop	4p. Coupe 5p. Landau Sed 145" W.B.	. 4420	4	aeghilmnpru
Sp. Sedan, 2d	. 92	25	2	aeghmnr	7p. Sedan	254	5 4 405	0 Deghlmnrtx	1			rx	5p. Sedan	. 4495		aeghjlmnpru
2-4p. Spt. Coupe 5p. Sedan, 4d	102		4	ceghmnr	5p. Ber. Lim	234	5 4 410	0 Deghlmnrtx	5p. Cus. Sedan	. 3350	4 45	62 aeghjklmno rtx	5p. Sedan 7p. Sedan	4545		aeghjimnpru aeghjimnprt
bp. Landau Sed.	108			aeghmnr	PIERCE ARROV	1			4p. Coupe	. 3450	2 45	27 aeghklmno	7p. Limousine	. 4995	4 477	aeghilmnprt aeghilmnprt
	1		1		2p. Runabout	. \$290		0 afghlmnrx	5p. Std. Sedan	. 3450	4 45	rtx 72 aeghjklmno	7p. Landau Lim. "Salon Cus."	. 5295		
OVERLAND	1	1		1	4p. Touring Conv't Rdster	310		0 afghlmnrx afghlmnrx	5p. Sedan Lim	. 3700	4 46	rtx 47 aeghjklmno	5p. PW Sedan	. 6345		. aeghjimnpru Laeghjimnprt
"4" Whippet	1		4 1005		2p. Coupe	. 325	0 2 326	5 afghlmnprtx	1			rtx	7p. Con. T'n Car			aeghjlmnprt
5p. Touring 2-4p. Roadster	. 52	25	4 1985 2 1932	laghr	5p. Brougham 5p. Club Sedan	325		0 afghlmnprtx 0 afghlmnprtx	5p. Cus. Sed. Lin	n 3700	4 46	37 aeghjalmno rtx	VELIE "Std.50"			
2p. Coupe	53	5	2 2060 2 2122	aghr	2-4p. Coupe 5p. Sedan	335	0 2 343	5 afghlmnprtx 0 afghlmnprtx	7p. Sedan	. 3750	0 4 47	02 aeghklmno rtx	5p. Touring 5p. Sedan	. \$995 . 1115	2 267	aehmnr
5p. Coach	. 53	35	2 2160	aghr	5p. Sp. Sed. Land	335	0 4	afghlmnprtx	7p. Sedan Lim	. 3950	4 47	77 aeghklmno	5p. Coupe	. 1165	2 291	aehkmnr aehkmnr
6) Whippet		50	4 2210	aghr	5p. Club. Land 7p. Sedan	340		5 afghlmnprt 0 afghlmnprt	"H"			rtx	5p. Sedan	. 1165	4 301	aehkmnr
2-4. Roadster 5p. Touring	61		2	agr	4p. Coupe 7p. Enc. Dr. Lim	. 345	0 2 345	0 afgnlmnprt	4p. Roadster		. 2	afghmnprwx	5p. Metro Sed	. 1195 1265		. aeghkmnr
2-4p. Coupe	. 69	5	2	agr aghr	"36"	. 355		0 afghlmnprt	4p. Cabriolet 2p. Coupe		2	. afghmnprx . afghmnprx	5p. Metro Sed 2-4p. Metro Cpe.			aeghkmnr aeghkmnr
5p. Coach 5p. Sedan	69		4	aghr aghr	2p. Runahout 4p. Touring	587	5 2 456	0 afghlrx 0 afghl rx	5p. Coupe 5p. Sedan	. 5500	2 49	42 afghmnprtx afghmnprtx	"6-77" 5p. Spec. Sedan.	1585	4 338	aeghkmnru
	1	1	1	lug.n	7p. Touring	. 587	5 4 458	5 afghlrx	"J"				5p. Royal Sedan.	. 1635	4 339	aeghkmnru
PACKARD					7p. Sedan 7p. Lim. Encl	. 587. 587.	5 4 487	5 afghlrtx 0 afgnlrtx	7p. Touring	. 5500		72 afghmnprwx 67 afghmnprtx	5p. Coupe			aehkr aeghiknr
4p. Runabout	. \$227	5	2 3820	Deghlmnpx	3p. Coupe 4p. Cpe. Sedan.	637	5 2 476	0 afghirtx 5 afghirtx	7p. Limousine 7p. Town Cab	. 5800	0 4 52	17 afghinnprtx afghmnprtx	5p. Club Phaetor 5p. Coupe		4 364	0 aeghkmnrv
5p. Phaeton	227	9	4 3000	Deghlmnpx	[4p. Sedan	. 637	5 4 483	0 afghlrtx	7p. Town Bro'm.		4	afghmnprtx	5p. Spec. Sedan.	. 2095		aeghkmnrv
5p. Sedan 2-4p. Coupe	.1 235		2 3950	Deghlmnpatx	7p. Enc. Dr. Lan 7p. Sedan Land	600	0 4 489	5 afgblrtx 0 afghirtx	"G8-85" 4p. Roadster	. 3950	2 44	48 aeghklmnpr	5p. Royal Sedan. WILLYS-			
4p. Conv't Cpe	. 242	5	2 3875		4p. Lim. Encl 4p. C. C. Sedan	637	5 4 488	0 afghlrtx_				wx	KNIGHT		11	
5p. Phaeton	. 238		4 3745		2p. Coupe 4p. Sedan Land	647	0 2 474	5 afghlr 5 afghlr	4p. Touring	. 3950		33 aeghjklmnpr wx	"Std. 6" 2-4p. Roadster	. \$995		. aghnr
4p. Runabout 7p. Touring	248		2 3700 4 3865	Deghlmnprx	4p. Sedan Land 4p. Enc. Dr. Land	660	0 4 480	0 afghlrtx 0 afghlrtx	4p. Cabriolet	4550		17 aeghklmnopra 82 aeghklmnocta	5p. Touring	995	2 250	aghnr aghnr
4p. Coupe 5p. Club. Sedan.	. 268	5	2 4000	deghint	7p. Fr. Limou	. 750	0 4 174	0 afghlrtx	5p. Sedan			34 aeghjklinno	5p. Coach	. 995	2 281	6 aghnr 8 aghnru
	268	0	4 4085	Deghilmnprtx	7p. Fr. Landau	800	0 4 486	5 afghlrtx	7p. Sedan	. 4750	4 50	27 aeghklmno	5p. Sedan "Great 6"	. 1095	4 285	8 aghnru
7p. Sedan 7p. Sedan Lim	268	5	4 4145	Deghlmnprtx Deghlmnprtx	PONTIAC "6"	074						rtx	2-4p. Roadster 5p. Touring	. 1850 1850		6 aghmnr
"443"		-			5p. Sp. Phaeton.		5 4	0 ahn	5p. Sedan Lim	. 4850		09 aeghjklmno rtx	[2-4p. Cab Coupe	. 1995	2 372	5 aghmnr 6 aghmnr
4p Runabout 5p. Phaeton	. 387	5	2 4350 4 4370	Djk Dik	2p. Coupe 5p. 2d. Sedan	74	5 2 243	5 ahn 0 ahn	7p. Limousine	. 5250	4 51	02 aeghklmno rtx	4p. Foursome Sec	i. 2095 . 1995	4 401	2 aghimnrt 3 aghmnrt
7p. Touring	397	5	4 4410	Deghjklmnp	4p. Sport Cab	79	5 2 2 4 5	5 ahn	STUDEBAKER			100	5p. Sedan 135" W.B.	1000		
2p. Coupe 2p. Conv't Cpe	. 415	0	2	rx	5p. Sp. Sedan 5p. Sp. Landau	82	4 259	5 ahn 0 aehn	"Dictator" 5p. Tourer Royal	\$119	4 30	00 aghlmnr	7p. Touring 5p. Coupe	. 2285		9
2p. Conv't Cpe 4p. Coupe	425	0 3		Dile		1	1		5p. Du Phaeton.	. 1198	5 4 30	40 aghlmnr	7p. Sedan	. 2595	4 411	2 aghmnrt
6". Club Sedan.	445		2 4635 4 4710	Dik Deghklmnp	REO "Flying Cloud"				4p. Sp. Roadster. 7p. Tourer Royal	. 1298	5 4 30	00 aghlnr 20 aghlmnr	7p. Limousine			
7p. Sedan	445	1		rtx Deghjklmnp	2-4p. Roadster 5p. Brougham			0 aeghmnr	2p. Cpe. Regular.	. 119	5 2 31	00 aghimne	2-4p. Roadster	. 1350		0 aghmur 1 aghmnr
				rtx	2p. Sp. Coupe	1643 1623	2 344	5 aeghmine 0 aegh:mnr	4p. Coupe Royal. 4p. Victoria Roya	129	5 2 31	34 aghlmnr 84 aghlmnr	5p. Touring 2p. Coupe	. 1295	2 276	7 aghmnr
7p. Sedan Lim	455	4	4860	Deghklmnp rtx	4p Victoria 5p Sedan	1845	4 364	0 aeghmnr 5 aeghmnrt	5p. Sed. Regular. 5p. Sedan Royal.			41 aghlmnru 41 aghlmnru	5p. Coach	. 1298	2 291	7 aghmnr 6 aghmnr
		l	1		50 DeL. Sedan	1 1005	4 255	Occahmant	II Production according	1	1 1		5p. Sedan	. 149	A 4 216	7 aghmnrt

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KEY TO SYMBOLS

Trunk and trunk rack

Trunk rack, no trunk.

Spare tire

Spare tire lock.

Engine heat indicator.

Dash gasoline gage

Car heater.
Cigar lighter:
Rear traffic signal
Spotlight
Vanity and smoking set
Smoking set

w—Vanity set
w—Windshield wing:
x—Clocs.
*—Overall length.
\$—Prices on application

Mechanical Specifications of Current Passenger Car Models This list comprises current cars distributed on a national basis only. Data for previous models back to 1920 will be found in the Chilton Catalog and Directory

	ABBREVIATIONS— NAMES OF MFRS. OF STOCK PARTS	A-Boar-American-Bosch A-K-Atwater Kanl A-L-Auto-Life A-L-Auto-Life A-A-Auto-Life A-A-Auto-Life A-A-Auto-Life A-A-Auto-Life Ball-Ball & Bill Ba-Bassic cups Ba-Bassic cups Ba-Bassic cups Bi-Bill Ba-Bown-Lipe Bi-Bill Bo-Bown Bi-Bill Bo-Bown Bo-Bown Col-Columbia Columbia Col-Columbia Columbia Col-Columbia Columbia Col-Columbia Col-C	Tim—Timasian Machine U.M—Universal Products W.G—Warner Gear W.s—Warner Gear Z.s—Z.s.s.t.s.
	Length Chassis Lubrication	ALLILLIA OS CARA DE CA	1
	Rear Spring—Type a	7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.66 7.555.	ake 'X' Shape 'Y' Shape
93	Steering Geer-Mal	Ross. Ross. Jac. Jac. Jac. Jac. Jac. Own. Own. Cem. Cem. Cem. Cem. Cem. Cem. Cem. Cem	te make rd make rd -syphores 'X' servo
BRAKES	Hand—Type and Location 4-Wheel Type	REPUBLICAN WEST CONTROL OF THE CONTR	Se—Servo Sep—Separate Sp—Supur gast (emash Sp—Spur gast (emash Ste—Standard Th—Thermo-yphon Tr—Transverse Xr. St. Vs-Vacuum servo Vs-Vacuum servo Xm—Vacuum servo Xm—Vacuum servo Xm—Vacuum servo
	Foot-Type and	2.12 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09 2.09	**************************************
REAR AXLE	Gear Ratio		cam- cam-
REAR	Type and Make	Colon State	ains, rods ins, timin ains, rods g case ains, rods ressure
P	Universal—Type and	B - CLP B - CLP B - CLP B - CLP B - CN B - C	PF—Pressure to mains, rods, cam- ahalt, wrist pins, timing case PG—Pressure to rains, rods, cam- shaft, timing case PH—Pressure to mains, rods, cam- ps shaft with pressure Pump Q—Quarter elliptic R—Rectifier elliptic
	Geat Set-Make	War War War Own Own Own Own Own Own Own Own Own Own	Pre-Pre-Pre-Pre-Pre-Pre-Pre-Pre-Pre-Pre-
	Clutch-Type and M	P. Long. D. Long. D. Own. D. Own. D. Own. D. Own. D. Own. P. Dear P. Ree B. Ree	
ELECTRICAL SYSTEM	Generator and Starter Make	DA-A-A-A-A-A-A-B-B-B-B-B-B-B-B-B-B-B-B-B	Ow—Oil cups with wick feed P—Single plate P—Pressure to mains, rods, cannahaft, wristpina of PB—Pressure to mains, rods, timing case PC—Pressure to mains, rods PD—Pressure to mains, rods PD—Pressure to mains, rods PD—Pressure to mains, rods PD—Pressure to mains, rods Wristpina
ELE	Ignition System	00000 00000000000000000000000000000000	Ow—Oil cups with wick P—Single plate P—Prosure gun AB—Presure to marins, exambleft, wristpin PB—Presure to mains, PE—Presure to mains, PE—Presure to mains, PE—Presure to mains, wristpina, tuning wristpina, tuning, wristpina, tuning, pre—Presure to mains, wristpina, tuning, wristpina, wristpina, tuning, wristpina, wristpina, tuning, wristpina, tuning, wristpina, tuning, wristpina, tuning, wristpina, tuning, wristpina, tuning, wristpina, wristpina, wristpina, wristpina, wristpina, wristpina, wristpina, w
	Make Air Cleaner?	TACKCACACACACACACACACACACACACACACACACACA	Oil cups wit ingle plate Pressure gun Pressure to canabate, w Pressure to timing case Pressure to Pressure to Wristpius Pressure to Pressure to Wristpius
	Radiator Shutter Carburetor	Set of the control of	Pr-Pr-Pr-Pr-Pr-Pr-Pr-Pr-Pr-Pr-Pr-Pr-Pr-P
	Oil Cleaner?	NZZZKANAZZZZZZZKANAZKAZZZZOZZKAZZKZZZZZZZKAZ ZZZZZZZZZZZZZ	3
	Oiling System	PHERESCOOR THERESCOOLS OF THE PROPERTY OF THE	ic ngs) prings
	No. Main Bear. Crankshaft Vio'n Damper?	NKKKK KKKKK KKKNNNNKKKKNNKKNNNKKNNKKKNKKKK ********	J—Three-quarter elliptic K—Cone L—L bead ——Metal M—Metal M—None N—None N—Noted Iron O—Optional O—Optional type (rear springs) OG—Oil cups OG—Oil and Grease Cups
	Piston Material	A A A A A A A A A A A A A A A A A A A	e-quar
	Camshaft Drive	<u> </u>	J—Three-q K—Cone L—L head m—Methal M—Mechal M—Platforn N-I—Nicke 0—Options 0—Options 0—Options 0—Oil au
ENGINE	Compression	2000 44 4000 040 000 4 400 44 4 4 4 4 6 400 000 0	
ENG	Maximum Brake Horsepower at Special Speed	88-3200 118-3200 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-2800 163-	F—Filter F—"F" bead, intake valve-in- head exhauit valve on side, F—Full floating G—Head and side G—Grease oups H—Horizontal (valves) H—Horizontal (valves) H—Horizontal (valves) I—In head I—In head I—In head I—Internal four wheels I—Internal reur wheels
	placement Valve Arrangement	185 L. 2247 L. 2257 L. 2257 L. 2267 L.	valve
	Piston Dis-		hauet hauet loating and si and si se cup ontal ontal contal fermal fermal ferma
	Number of Cyls., Bore and Stroke Rated H.P.	200	F—Filter had estatut valve on had estatut valve on had estatut valve on FI—Full dosting G—Head and side GG—Grease oups H—Horizontal (valves) H—Horizontal (valves) H—Horizontal (brakes) H—Internal four wheels I-F—Internal four wheels I-R—Internal
		CG. WS 6-23/2443/2 CG. CGS 8-23/24443/2 CG. CGS 8-2	2
	Make and Model	Lyc. WS CS CS CS CS CS CS CS	Overhead shale cups to cups ar wheels ar wheels ar wheels ar wheels
	Tire Size	28x5 25 33x6 00 33x6 00	80—Bevel Gear Overhead shaft Ch—Chain CC—Chain: Overhead shaft CG—Chain: Overhead shaft CB—Di and grease cups D—Multiple disk D—Multiple disk E—F—Little diptu E—F—Little diptu E—R—External from wheels E—R—External from wheels E—R—External from wheels E—R—External from wheels E—R—External from wheels E—R—External from wheels
	Wheel Base (Inches)	125 125 126 127 128 129 124 124 125 110 110 110 110 110 111 110 111 111 11	BO—Bevel Gear Overhead share Ch—Chain C—Chain CO—Chain; Overhead shaft Cu—Oil and grease cups D—Multiple disk dp—Double plate E—F—External four wheels E-F—External four wheels E-F—External four wheels E-T—External transmission (—Fabric
	MAKE AND MODEL	Auburn 76 Buick 115 Buick 118 Buick 115 Buick 128 15 Cadillac 34 Chandler Spec, Invin 6 Chandler Spec, Invin 6 Chandler Spec, Invin 6 Chrysler (22) Chrysler (22) Chrysler (22) Chrysler (22) Chrysler (22) Chrysler (22) Chrysler (23) Dain State (24) Dain State (25) Dain State (25) Dain State (25) Durant 55 Burnt 67 Elear 8-91 Ele	KEY OF SYMBOLS Others Used At extra cost At minimum

for Economical Transportation



Another Great Factoryto serve Chevrolet Dealers

\$495 The Coach \$585 The .\$595

\$375

The 4-Door \$675 The Convertible \$695 Sport Cabriolet ... The Imperial Landau Utility Truck (Chassis Only) \$495 Light Delivery (Chassis Only)

All Prices f. o. b. Flint, Mich.

Check Chevrolet Delivered Prices

They include the lowest handling and financing charges available.

Early in April the Chevrolet Motor Company started production in an enormous new assembly plant at Atlanta, Georgia.

Built to supply the needs of Chevrolet dealers in the Southeast, the new Atlanta plant brings the total of Chevrolet factories to fourteen—every unit equipped with the most modern and most efficient machinery known to engineering science ... and every one of the assembly plants served by an immediately adjacent Fisher Body factory.

Factory facilities of such magnitude assure Chevrolet dealers everywhere close-at-hand service on deliveries of cars and parts and many other advantages that enable them to conduct their businesses with maximum efficiency and profit.

CHEVROLET MOTOR COMPANY, DETROIT, MICHIGAN Division of General Motors Corporation

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	ABBREVIATIONS— Lubi: Call ABBREVIATIONS— OF STOCK PARTS C	A-Bos—American-Bosch A-K—Awater Kent A-L—Auto-Lite Ada—Adams Alm—Almeral Am—Almeral Am—Almeral Am—Almeral Am—Almeral Am—Almeral Am—Almeral Am—Almeral Ba-Bassiek cups Ba-Bassi	War—We guer War—Warner War—War—War—War—War—Willys-Worr .w Wis-Wisconsia Ze—Zenith
	Reat Spring—Type s	Name	S=-Semi-elliptic Sep-Servo Sep-Servo Sep-Servate Spe-Sportal make Ste-Storial make Ste-Storial make The Thead The Thead The Thead The Transverse 'X'' Shape V=-Cantilever 'Y'' Shape
91	4-Wheel Type Steering Gear—Mal	Ross	e e make d d syphon syphon servo
BRAKES	Hand—Type and Location	FERRES PROPERTY OF SECULOR SEC	Servinellip Servinellip Separat Special Standar head Phemo- l'ransver antilever antilever antilever
	Foot-Type and Location	44444444444444444444444444444444444444	S S S S S S S S S S S S S S S S S S S
R AXLE	Gear Ratio	4444444446690 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	s, cam- , cam- , cam-
REAR	Type and Make	A	vins, roda ning, roda nis, rods ins, rods case ins, rods
F	Universal—Type and	Harmon H	PE—Pressure to mains, rods wristing, timing case PF—Pressure to mains, rols, cam- shaft, wrist pins, timing case PG—Pressure to mains, rols, cam- shaft, timing case shaft, timing case shaft, timing case shaft, speaked to shaft PFS—Sphash with pressure Q—Quarter celliptic
	Gear Set-Make		Pressi wris shaft -Pressi shaft -Pressi shaft -Splash -Pump -Pump
ll	Clutch-Type and M.	D-R P-B&&B P-B&B P-B&B P-B&B P-B&B P-B-B	PF PH PH PPS PPS PPS PPS PPS PPS PPS PPS P
ELECTRICAL	Generator and Starter Make	D-R. D-R. D-R. D-R. D-R. D-R. D-R. D-R.	OG—Oil and Grease Cups Ow—Oil cups with wick feed Pr—Single plate P—Fresure gun pA—Presure to mains, rods, camabaft, wristpins PP—Presure to mains, rods, timing case promere to mains, rods PP—Presure to mains, rods wristpins
ELEC	Ignition System	100 - R	d Grease ate ate to mail of the company of the comp
	Carbureter Make Air Cleaner?	HAKANAN KANAKA KANANANAKKAKAKAKAKAKAKAKAK	Oil and Collicups vingle plate single plate Pressure gramshaft, camshaft, pressure training current pressure training curp-ressure twistepina wristpina
	Oil Cleaner? Radiator Shutter	ZZZZZZZ Z ZZZZZZZKAKAK KZZZZZZKKZZ Z ZZZZZ	PA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-CA-PP-
	Oiling System	PRACTOR OF PROCESSION NEW PROCESSION	eels ie ngs)
	No. Main Bear. Crankshaft Vib'n Damper?	NN KNNK NNKKNN KKKKKKNNKNNKKK NNKKNKKKKKK	Internal rear wheels here-quarter elliptic one head fact-all fact-all wolone one will be with the construction of the construc
	Camshaft Drive	A A A COO A S.	R—Internal rear wheels —Three-quarter elliptic —Cone —I head —I head —I—Mechanical —Mechanical —Platform (rear springs) —Platform (rear springs) —Options —Options
INE	Ratio noiseasion	00000000000000000000000000000000000000	LH CONZUM COO
ENGINE	Maximum Brake Horsepower at Specified Speed	70-2900 5.15 [176-2800 5.15] [176-2800 5.15] [176-2800 5.15] [176-2800 5.15] [176-2800 5.15] [176-2800 5.15] [176-2800 5.15] [176-2800 5.15] [176-2800 5.15] [176-2800 5.15] [176-2800 5.15] [176-2800 5.15] [176-2800 5.15] [176-2800 5.15] [176-2800 5.15] [176-2800 5.15] [176-2800 5.15] [176-2800 5.15] [176-2800 5.15] [176-2800 5.15] [176-2800 5.15] [176-2800 5.15] [176-2800 5.15] [176-2800 5.15] [176-2800 5.15] [176-2800 5.15] [176-2800 5.15] [176-2800 5.15] [176-2800 5.15] [176-2800 5.15] [176-2800 5.15] [176-2800 5.15] [176-2800 5.15] [176-2800 5.15] [176-2800 5.15] [176-2800 5.15] [176-2800 5.15] [176-2800 5.15] [176-2800 5.15] [176-2800 5.15] [176-2800 5.15] [176-2800 5.15] [176-2800 5.15] [176-2800 5.15] [176-2800 5.15] [176-2800 5.15] [176-2800 5.15] [176-2800 5.15] [176-2800 5.15] [176-2800 5.15] [176-2800 5.15] [176-2800 5.15] [176-2800 5.15] [176-2800 5.15] [176-2800 5.15] [176-2800 5.15] [176-2800 5.15] [176-2800 5.15] [176-2800 5.15] [176-2800 5.15] [176-2800 5.15] [176-2800 5.15] [176-2800 5.15] [176-2800 5.15] [176-2800 5.15] [176-2800 5.15] [176-2800 5.15] [176-2800 5.15] [176-2800 5.15] [176-2800 5.15] [176-2800 5.15] [176-2800 5.15] [176-2800 5.15] [176-2800 5.15] [176-2800 5.15] [176-2800 5.15] [176-2800 5.15] [176-2800 5.15] [176-2800 5.15] [176-2800 5.15] [176-2800 5.15] [176-2800 5.15] [176-2800 5.15] [176-2800 5.15] [176-2800 5.15] [176-2800 5.15] [176-2800 5.15] [176-2800 5.15] [176-2800 5.15] [176-2800 5.15] [176-2800 5.15] [176-2800 5.15] [176-2800 5.15] [176-2800 5.15] [176-2800 5.15] [176-2800 5.15] [176-2800 5.15] [176-2800 5.15] [176-2800 5.15] [176-2800 5.15] [176-2800 5.15] [176-2800 5.15] [176-2800 5.15] [176-2800 5.15] [176-2800 5.15] [176-2800 5.15] [176-2800 5.15] [176-2800 5.15] [176-2800 5.15] [176-2800 5.15] [176-2800 5.15] [176-2800 5.15] [176-2800 5.15] [176-2800 5.15] [176-2800 5.15] [176-2800 5.15] [176-2800 5.15] [176-2800 5.15] [176-2800 5.15] [176-2800 5.15] [176-2800 5.15] [176-2800 5.15] [176-2800 5.15] [176-2800 5.15] [176-2800 5.15] [176-2800 5.15] [176-2800 5.15] [valve-in e on side es) ss)
	Placement Valve Arrangement		ntake v i valve ig gig dide sa sa (valves) (brakes) ar
	Rated H.P. N.A.C.C.	26. 5 4 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	ber head, i head, i exhausi ill floatin ad and is rease cul prizontal draulic felical ge nead
	Number of Cyls., Bore and Stroke	19 19 20 20 20 20 20 20 20 20 20 20 20 20 20	F—Filter F—Ty bead, intake valve had exhaust valve on si F—Pull floating G—Head and side Gr—Grass cups H—Hydraulic (hrakes) H—Hydraulic (hrakes) I—In haad I-F—Internal four wheels
	Make and Model	SS	arbead shaft ad shaft aps aps wheels mission
	Fire Size	30x6.00 31x6.20 32x6.00	l Gear Overhea Iron In; Overhea In; Overhea In Gease of ple disk Se Plate Alliptic Franal four recenal fear
	Wheel Base (Inches)	13. 12. 12. 12. 12. 13. 13. 13. 13. 13. 13. 13. 13. 13. 13	BO—Bevel Gear Overhead shaft Ch—Chain Cl—Cast Iron CO—Chain; Overhead shaft Cu—Oil and grease cups D—Multiple disk dp—Double Plate E—F—External four wheels E-F—External from wheels E-F—External from wheels E-F—External transmission
	MAKE AND MODEL	Kissel 8-805 125 Kissel 8-80 125-132 Kissel 8-90 131-139 La Sale 8-90 131-139 Locomobile 8-80 125-134 Locomobile 8-80 131-136 Locomobile 8-80 131-136 Marmon 78 141 Marmon 178 198 MeFarlan St. 78 110 Moon 6-12 110 Moon 6-72 110 Nash Special 1123 Overland (4) Whipper 100 Overland (6) Whipper 100 Packard 53 126 Packard 54 43 Packard 50 113 Pack	**CFT OF SYMBOLS **Others Used **—At extra cost **On Royal models only **2*—Semi-fonding **A*—Three-quarter floating *A*—Three-quarter floating *A*—A huminum with strut *B*—Semi-steel *B*—F*—Internal front and







Be Ready for 'em!

NEW car models ... motor changes ... intense competition ... grief for the shop that hasn't proper reamer equipment ... golden opportunity for the shop that has!

Again "Sioux" comes to the rescue with a complete Valve Seat Reamer Set that meets the new demands for fast, accurate work on practically 90% of all automobile motors. Sioux Roughing Reamers for removing hard deposits; Sioux Finishing Reamers; Sioux 15° and 75° Nicked Tooth Reamers for narrowing valve seats; Sioux Pilot Stems in standard sizes and oversizes to assure the snug fit necessary for a perfect job and to avoid wobbling and traveling in worn guide holes;—42 different items, all conveniently arranged in a handy metal box. Get full information about this new set.

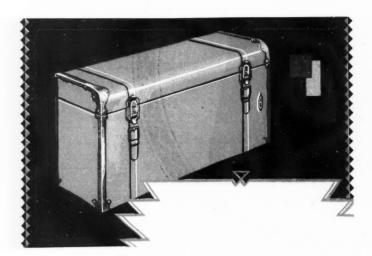
Your Jobber Sells It

ALBERTSON & CO. Sioux City, Ia.

\$2,000 Extra Profit

on Bigler Trunks alone went to this Dealer last year

Hard to believe? Yes!—but . . . read these facts



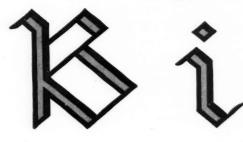
prestite

Stronger than metal—more durable than wood—more attractive than imitation leather . . . an exclusive development by Bigler. Manufactured under a secret process for motor trunk use. Rattle, rumble and rust-proof—impervious to moisture—Duco finished—easy to clean!

UR advertising a gent told us we couldn't say this. They said it didn't sound possible. During the year 1927 alone one dealer in a town of under 10,000, selling a medium-priced car, equipped every car he sold with a Bigler Trunk. At the close of the year—his books showed a net profit of more than \$2,000 on Bigler Trunks alone. You can't believe this until you've actually seen the Bigler Line. Until you can really appreciate that final touch of smartness a Bigler Trunk adds to any car. Remember! Bigler Trunks not only increase your extra profit volume for the year—but they help to sell cars as well.

You, too, can do what this dealer has done. With a little extra honest selling effort, you can get that extra Bigler Profit! Equip every new car with a Bigler Better Built Trunk!







New Trunks in Step With Today's Motor Car Vogue

Now a trunk with beauty . . . color . . . smartness. A trunk with true sales appeal. Beauty that meets the modern car owner's idea of the *smart motor car*. Not trunks as you have always thought of them—but an entirely new conception in trunk design. Custom built for those attractive models now on your sales floor.

No sales feature you could want is lacking in the Bigler prestite Trunk! Color . . dash . . style . . in complete harmony with today's smart looking Motor Car. Plus strength—utility—yet absolute freedom from rattle,

rumble or rust—warp, mould or blister. Bigler Trunks are built of prestite—an amazing new development—exclusive with Bigler. Attractively Duco finished inside and out—durable and easy to clean—dust and watertight!

Few lines offer such possibilities for extra profit without increase of capital or overhead.

Let us tell you the complete story of the Bigler sales plan. Get in touch with your distributor or write direct to Bigler Manufacturing Co., Chippewa Falls, Wis.



Trunks



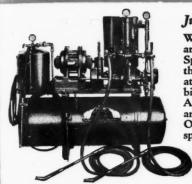
Jumbo Giant Brake Tester

THIS machine is a permanent source of profit and good will for car dealers, gerages and brake service stations everywhere. It turns jobs out much faster than other testers — easily handles fifty cars per day — and every test shows the car owner conclusively

when brake adjustments, relining or drum-truing are necessary.

The Jumbo Giant is simple to operate. Involves no estimating or figuring. The information it gives is immediate — unquestioned! No chance for mistakes. A business builder and money maker.





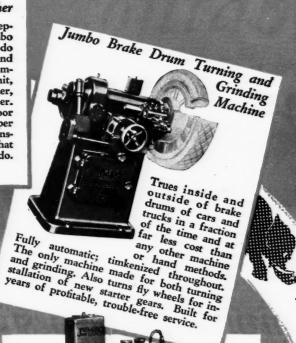
Jumbo Spray-Mist Washer

Why pay more for three separate units when this Jumbo Spray-Mist Washer will do the same work — faster and at far less expense? It combines in one compact unit, Air Compressor, Car Washer, and Penetrating Oil Sprayer. Occupies only 6 x 3 ft. floor space. Handles more jobs per day and does motor, transmission and axle jobs that ordinary outfits can't do. A money maker!

MAKING money — lots of it — and building good will for your shop on every job you turn out — that's the purpose of all Jumbo Equipment.

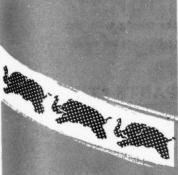
Every Jumbo unit serves a specific need — serves it, we think, better, faster and more economically than any other equipment.

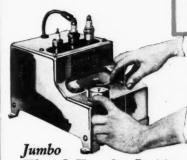
The Price-Hollister and affiliated companies represent an investment of more than \$2,000,000 — an organization possessing almost unlimited resources devoted to the correct design and construction of automobile service equipment. No Jumbo product is advertised or sold until its efficiency has been tested and proved under actual service conditions.





A time-tested, service-tested, profit-tested machine for fast, "cup-gun" jobs. Powered with dependable 4-cylinder compressor. Uses any gun satisfactorily but for best work use the Jumbo Spray Gun and conditioner. Atomizes and distributes lacquer perfectly, leaving uniformly smooth surfaces that minimize the necessity of hand rubbing. An ideal unit for touch-up jobs on used cars.





Thor-O-Test for Ignition

Under compression — under actual running conditions — it tests cables, coils and spark plugs. Finds the faulty plug or short in a jiffy. Simply connect to air line and plug into light socket. A real timesaver and money-maker for

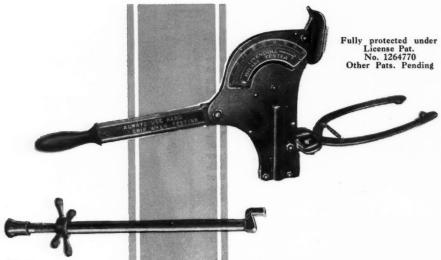
ey-maker for dealers, garages, and service stations.



Mail the Coupon

THE DRICE-HOLLISTER CO.

The PRICE-HOLLISTER CO.



Pedal Depressor No. 6 Locking Type furnished with each equipment.

Here it is! Complete Brake Testing Equipment priced within your reach!

\$37.50 COMPLETE



Results with the Linendoll are accurate yet easier and quicker obtained! It detects unequal tension at once—proving the need of brake adjustment—and building business for you.

The Linendoll Brake Tester is a small instrument that scientifically measures brake resistance and gives you all the necessary information to equalize brakes on any passenger car or light truck. Requires no floor space, low in price, no up-keep or operating expense. It is simple in construction—accurate and dependable! Makes brake adjustment a one man job! Shows driver the need of brake adjustment and maintains the brakes at maximum efficiency. Approved by several car manufacturers after severe comparative tests.

Every shop can get the big profits in brake testing with the Linendoll—as well as saving money on the cost of equipment!

THE NORWALK AUTO PARTS CO. Norwalk, Ohio

General Sales Office: Real Estate Trust Bldg. Philadelphia, Pa.

Factories: Norwalk, Ohio



There's a Profitable Place in the Decro-Oiler Set-up for ---

Straight Line Selling

Straight Line Advertising

Straight Line Discounts

THE Decro-oiler does what you have always known should be done. It takes lubrication where lubrication is needed most—to the upper cylinder walls, upper piston rings, valves. And the improved operation it immediately gives is real, amazing, almost uncanny—easier starting, quicker pick-up, greater power, rhythmic smoothness and, most important of all, eliminates all expense, work and worry of carbon troubles and valve grinding.

The Decro-oiler is being sold, merchandised and advertised throughout the country. Everywhere it is being received with enthusiasm, not only by the trade but the consumer as well. It is an accessory you can get behind and push—push for more business, better business, bigger profits.



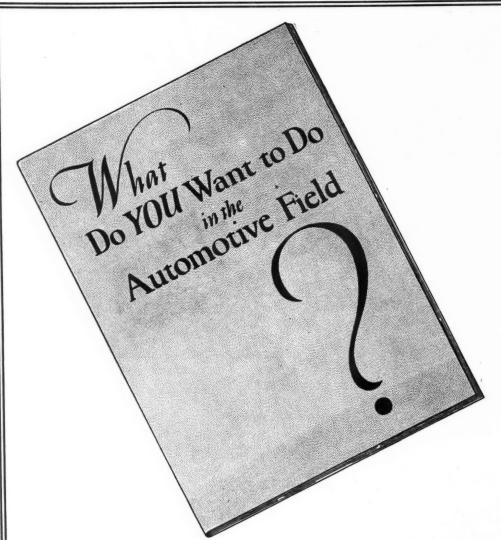
Your Day has Come

If you have given up in despair waiting for an accessory you can sell for all makes of cars—that will provide you with a permanent money-making set-up—your day has come. And Decro-oil, sold through the same straight channels, provides a source of constant repeat business. Write, phone or wire.

Get the Facts Now

DECROILER

DECROW AUTOMOTIVE SPECIALTIES, INC.
Lockport New York



Fixing Your Objective Simplifies Your Plans

When you know what you want to do in the automotive field, it should not be difficult to find a way to do it.

The clearer you fix your objective the nearer you will come to making your goal.

If your marketing activities include the *retail* automotive field, and you are not satisfied that your product is selling as fast as it should—our latest booklet, "What do YOU Want to Do in the Automotive Field?" may help you to find livelier dealers and to step up your sales.

This booklet answers six pertinent questions for those who seek better retail distribution, a wider market, or a larger volume of sales for an automotive product. Copy sent upon request, postpaid, to all interested.

MOTOR AGE

Chestnut and 56th Sts., Philadelphia



NY new product bearing the stamp of A Chrysler genius is a matter of profound interest and importance to the automobile trade. During the past five years, the cars created by Walter P. Chrysler and his great organization have literally revolutionized the design, manufacture, performance and quality of all classes of automobiles.

In less than five years, Chrysler has leaped to a position of extraordinary eminence in the industry. The leadership and outstanding achievements of Chrysler are of the greatest significance to you as an automobile dealer. For Chrysler has offered America's automobile dealers the greatest profit opportunities in more than a quarter-century of motor car selling. \(\psi\)

And now, Walter P. Chrysler and his associates have created a new opportunity for soundly established and progressive merchants. # # The future offered by the De Soto Six franchise is one of those incomparable opportunities that only Walter P. Chrysler could offer, and one which few ever expected would happen again. So great is the dealer interest in the new De Soto Six, the latest product of Chrysler genius, that literally thousands of dealers are seeking the franchise. # # If you are the progressive type of merchant who can see the profit possibilities of this newest great opportunity offered by De Soto, write or wire at once for information. Your inquiry will be held in strictest confidence.

THE SOUTH

SIX

DE SOTO MOTOR CORPORATION (Division of Chrysler Corporation) Detroit, Michigan

Your favorite gasoline + ETHYL=

Elimination of knock'
More Power
Quicker Pick-up
Less Shifting
Cooler Engine

LEADING oil companies throughout the United States and Canada are offering gasoline in two forms.

The first is straight motor gasoline. The second is motor gasoline to which has been added ETHYL fluid. This superior fuel is called Ethyl Gasoline.

ETHYL fluid, containing tetraethyl lead, controls the combustion rate of gasoline, thereby eliminating "knock" and giving added power for tough hills and heavy roads, greater flexibility, quicker pick-up and all round better performance. As for high compression engines — they were made possible through Ethyl Gasoline!

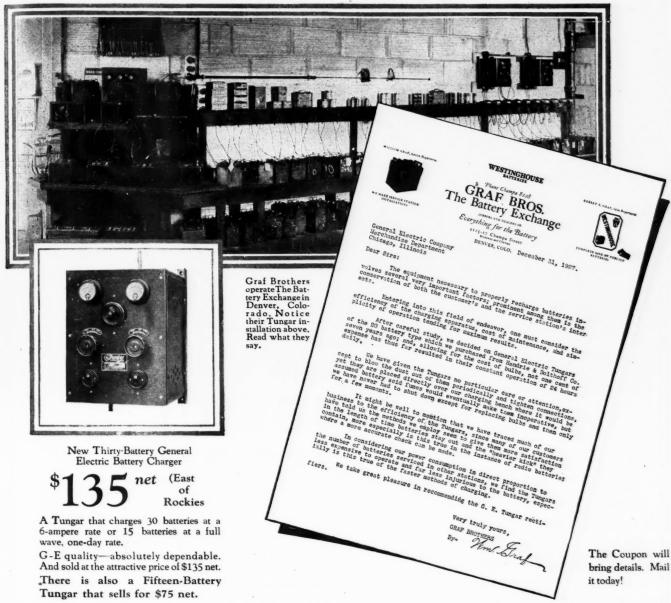
We ask you, as a car owner, to give Ethyl Gasoline a trial. Drive to the nearest ETHYL pump and fill your tank. Like the average car owner, you will find a big difference in the performance of your car; and you'll agree that the small premium price is insignificant compared with what you get from ETHYL.

ETHYL GASOLINE CORPORATION 25 Broadway, N. Y. C. 56 Church St., Toronto, Ont., Can.

ETHYL GASOLINE



Graf Brothers have no repairs on their General Electric Battery Chargers in seven years of constant operation





Tungar—a registered trademark—is found only on the genuine. Look for it on the name plate.

The same
FILLING CORNERS
PROFIT
1
GENERAL ELECTRIC
•

GENERAL ELECTRIC



STROMBERG / CARBURETORS



FORD
Price \$17.50

And now the new 1928 model Ford, Chevrolet, Pontiac, Chrysler-52, Whippet and Durant cars can also be made to perform amazing feats when equipped with the new 1928 Model VIS-A-GAS Syringe Stromberg Carburetor.

This latest creation of the Stromberg Laboratories meets and excels all of the exacting demands of the modern motorist.

POWER and speed thrills never before experienced.

ACCELERATION that always gets any car away ahead of the crowd and keeps it there. The new patented Syringe accelerator does it.

Double Idler enables one to go slowly with smooth, easy motor action.

Patented automatic economizer that regulates the mixture to the last degree of perfection at all speeds and gives greatest possible gasoline economy.

The VIS-A-GAS strains all water and dirt from gasoline, while the glass dome actually permits the motorist to see the action of the fuel, thus avoiding many troublesome delays and annoyances.

Thousands of these wonderful new instruments are being sold. Install one on your own car now and know why the big family of Stromberg motorists are so happy.

We have special Stromberg Carburetors for all makes of cars. DEALERS: Take advantage of our big National Advertising campaign now appearing in rotogravure sections of leading new spapers all over the country. Write today for our sales station plan and full information.

STROMBERG MOTOR DEVICES COMPANY
58 E. 25th STREET -:- CHICAGO, ILLINOIS



CHRYSLER-52 Price \$17.50



WHIPPET
Price \$17.50



DURANT, Price \$17.50

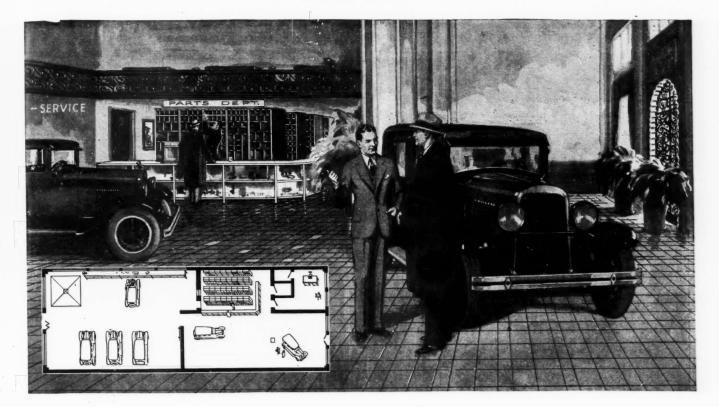
All Prices \$19.00 West of the Rockies



CHEVROLET

Price \$17.50

PONTIAC Price \$17.50



Show your customer you can Service the car you Sell

SUBSTANTIAL part of a car's good name is based on the dealer's ability to properly service it.

Be sure that your prospective car buyers can see you are ready to serve them. Locate your Parts Department adjacent to your showroom and service floor. This will provide display and shop service too. Look at the little plan above and see how easily it's done.

The smartness of your showroom will not be impaired that is, if you use a Lupton Auto Parts Storage System (LAPS for short) to display your replacement parts and other Lupton Display Counters for your accessories. Lupton Products are tailor-made to properly do this job.

With the arrangement shown in the plan, Lupton Equipment Shows the Prospect You Are Ready to Service the Car You Sell.

Put SERVICE in Your Sales Picture with **LAPS**

LAPS Systems save time because all your replacement parts are arranged for easy finding in a minimum amount of space. This means Quick Service to your customers and shop.

Your ability to serve quickly

creates confidence—this develops car sales. Cars must be serviced—this develops the need for parts and accessories. Make money 4 ways. Write for Lupton Booklet, "Your 4 Sources of Profit," also set of numbered labels for your present parts bins. Both are free. Use the coupon.

DAVID LUPTON'S SONS CO.

General Motors Building
DETROIT, MICH.



LUPTON AUTO-PARTS STORAGE

NEW DURANT LINE

Continues to break all production and sales records at the mammoth Elizabeth, N. J., Plant

Last September was the greatest sales month in the Company's history.

October surpassed September.

September, October and November surpassed any three previous months.

Then came the new Durant models and—

March, 1928 with 9661 cars passed the highest previous record by 20 per cent or 61 cars per day more.

April with 11,012 cars passed March by 13.8 per cent or 54 cars per day more.

March and April combined surpassed any two previous consecutive months by 46.5 per cent.

And right now there are more orders for immediate delivery on the Company's books than at any time in its history with the production schedule again increased 20 per cent.

A total of 15,772 Durant automobiles were built in Durant plants during April

18 Striking Models * Fours and Sixes \$495 to \$1550

f. o. b. Lansing, Mich.

DURANT MOTORS, INC.

250 West 57th Street, New York City

PLANTS AT ELIZABETH, N. J. - LANSING, MICH. - OAKLAND, CALIF. - LEASIDE, ONT.

SELL TOURISTS SELL TOURISTS

GRA/GRENE

-the efficient *fluid* lubricant for transmission and differential

-make big Spring profits

Start preaching the Graigrene gospel NOW—prepare your customers for summer touring!

Long trips at open highway speed are hard on transmission and differential if these vital areas are filled with heavy, sticky grease. Heavy grease cannot give efficient lubrication to gears. It packs at gear sides, lets them mesh direct, steel-against-steel. Friction increases and repair bills climb.

Motorists are learning—they are turning to Graigrene, the fluid lubricant that covers every single gear tooth with a film of protection all the time.

Every car in your community—on tour or in town—needs 8 pounds of Graigrene. Trucks and busses need 20 pounds. Tractors take 25 pounds. You make 50% profit per pound and build new trade.

Get started with Graigrene TODAY. You'll cash in BIG. See your local Graigrene jobber or write us.

New Pep-New Economy

Technical tests prove that Graigrene, used instead of heavy grease, permits motor to deliver 7% more power; 5.55% per mile more gasoline mileage. There's a Graigrene story every motorist reads and heeds.

GET THE LONG GREEN WITH GRAIGRENE

Manufactured by

Viscosity Oil Company

W. D. SIMMONS, President
Central Manufacturing District, CHICAGO

Phone Yards 7196





The Amber Eye



The "AMBER EYE" is a safety reflector made for use on passenger cars, trucks, busses, trailers, wagons, taxicabs, etc. It picks up rays from headlights more than 1000 feet away and warns. In fog it can be seen much further than ordinary red or green. When tail light fails, the "AMBER EYE" literally sees behind you, and is visible to the approaching car under all conditions.

The "AMBER EYE" is not only a necessary safety device, but a decided addition to the appearance of the car, truck or bus. Its universal adoption will prevent many unnecessary night accidents. Easily installed in a few minutes with one bolt to license plate holder.

Also made in red or green to conform with various state regulations.

Order your stock now from your nearest jobber or write for test sample on memo billing with your jobber's name.

Manufactured by HUNT & MOORE, INC. New Haven, Conn. Sales Dept.
THE ZINKE COMPANY
1323 Michigan Blvd., Chicago



How many are as hard

to please as "Bill Kicker"?

Bill Kicker's name speaks for him-

Bill Ricker's name speaks for itself—and he speaks for himself too. He's the world-famous complaint maker—won't pay bills without an argument and here's why!

Somebody in your shop greased his upholstery instead of his chassis—somebody kicked the fenders—smeared things with oil—and he didn't order that!

Once a ear leaves your shop oiled or stratched it never comes arek.

Save yourself the trouble and cost of repairing and replacing —and save your profits—by keeping the outside and inside of every job clean from the start.

Safest and cheapest with CAR OVERALLS. These Covers are made of strong striped Denim material—extremely serviceable and easily laundered when soiled. Take a moment to install—rods at top and bottom hold them in place.

We are headquarters for "Road-Ad" Tire Covers; price tags; repair order holders; muslin car covers; shop coats and mechanics' overalls. Write us!

Keep Klean Auto Products Co., Inc. 408 E. 176th St., New York City



There are Profit Making Ideas in Every Issue of

MOTOR AGE

Many subscribers of MOTOR AGE, who realize the value of its contents each week, route every issue regularly through their places of business to all departments.

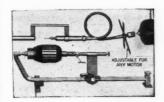
As a means of business-building this is a profitable habit to encourage, both for the benefit of the organization and its individual members. It is always best to read MOTOR AGE every

MOTOR AGE

CHESTNUT and 56th STS.

PHILADELPHIA, PA.

IDEAL MICA UNDERCUTTER



2 tools in one; fits any

Swings up out of the way.

Stand can be used for other purposes.

Fits your pocket-book.

J. J. ANKENBRANDT

Electrical Shop Equipment

2140 Wakeman St.

Cleveland, O.

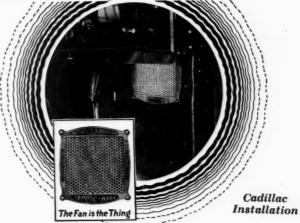
FIELD COILS CHEVROLETS

Chevrolets—hundreds of thousands of them on the road—needing new field coils at one time or another.
Equip yourself to supply them with new field coils—at a profit—by letting PEATROSS & ARTHUR supply you.
Armatures, too, can be taken care of.
The old armature cores that you used to throw away can be turned into cash—for you.
Our rewinds are guaranteed to be as ood as new ones.

good as new ones.
Get your field coils and rewound armatures from one source.

PEATROSS & ARTHUR CO. RICHMOND, VA.





A new type of hot water heater—simple in operation—easy to install—thoroughly tested and proven in thousands of pleasure cars and buses.

Clean, odorless, dependable heat for winter drivers. A new source of big profits for distributors and car dealers.

A National Sales campaign will sell TROPIC-AIRE to YOUR customers. Be prepared to demonstrate and get your share of this

Write for liberal discount proposition and advance information regarding our sales program.

TROPIC~AIRE INC.

1030 Ramsey St., N. E.

Minneapolis, Minn.

COWL SADDLE LIGHTS & BANDS



with Cowl Saddle Lights and Bands, as useful as they are ornamental. The vogue for 1928. Easily installed. Help sell vour car.

In Stock For All Makes of Cars We also manufacture: Tire Mirrors-Tire Brackets—De Luxe Trunks—Tire Wells—Blinds—Fancy Tire Covers— Body Specialties of all kinds. Interesting discount to dealers.

The ARMSTRONG CO.

MOTOR CAR BODY WORKS
6340 PENN AVE. E.E. PITTSBURGH, PA



SWAP a postage stamp for thousands of dollars worth of real facts on Car Washing. Send for your free copy of the hand

MANLEY MFG. CO. FREE York, Pa., U. S. A.



One Ib. can. \$1.75

CONNEAUT

Plastic Metallic Packing

Permanently seals leaky water pumps. Me-tallic packing in plastic form. All cars serv-leed from one or five pound can. Ask your jobber salesman.

The Conneaut Packing Co., Conneaut, O.

NEW BALLOON TIRE TESTER TANK
(Patented Aug. 26, 1903)



Needed in every service station and repair shop. Thousands now in daily use. Saves time! Makes profits! Adjustable rod supports tube. Tank is made of sheet steel and galvanized after formation.

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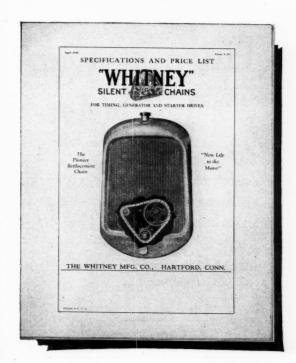
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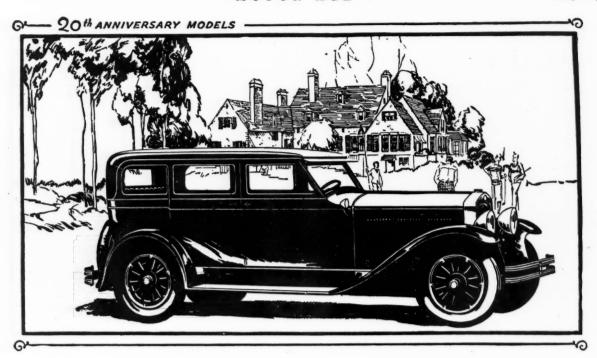
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